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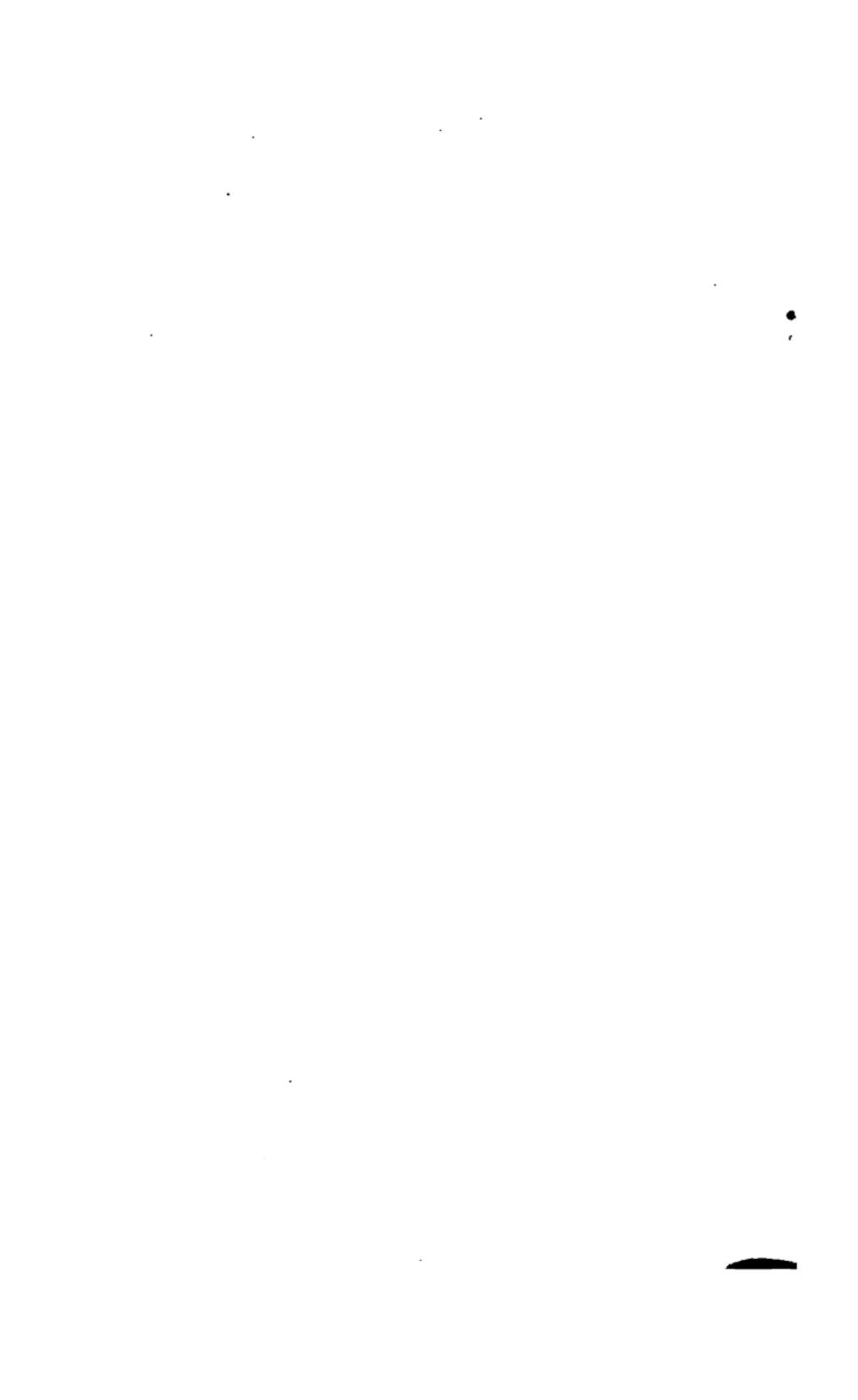
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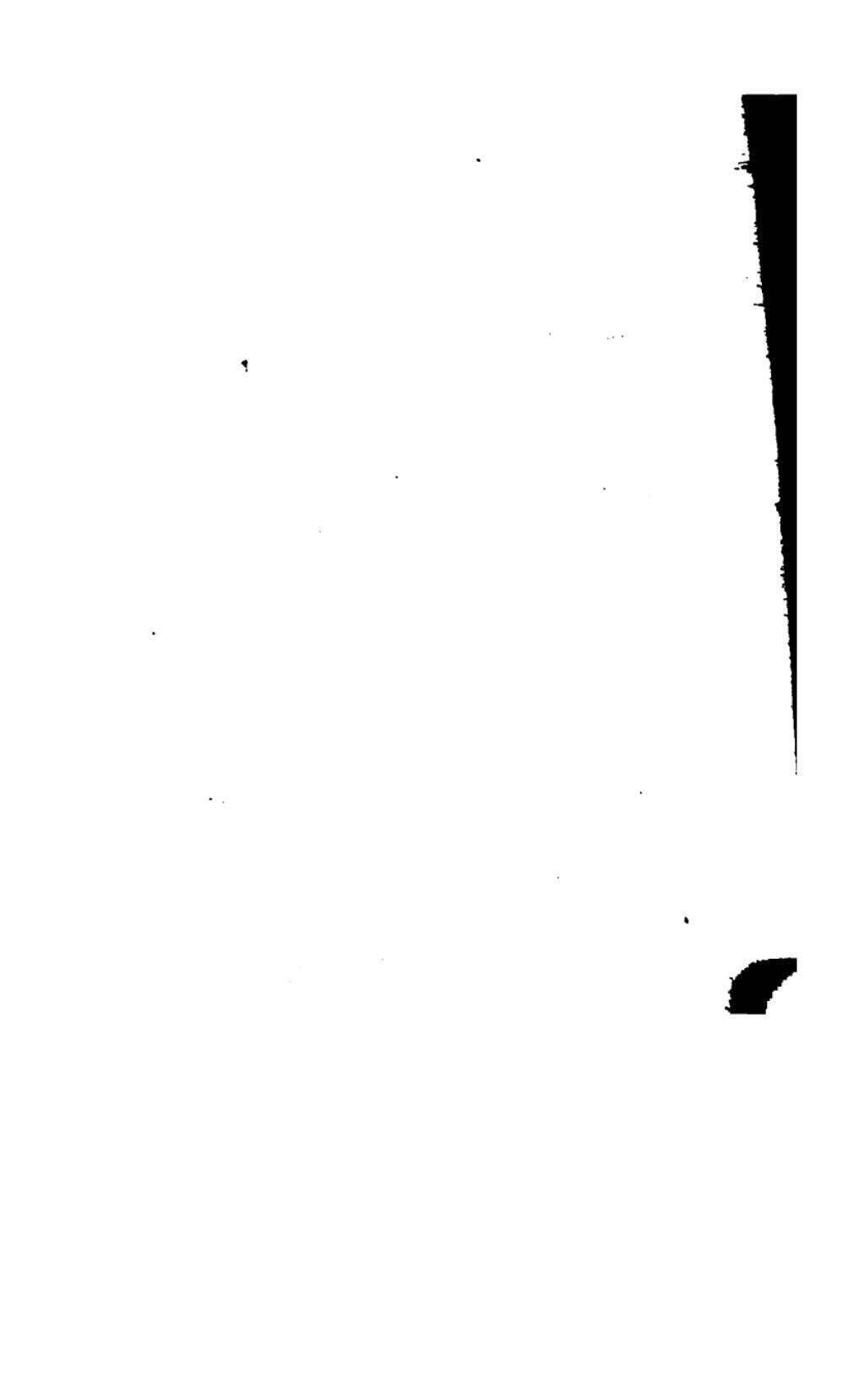


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THE
GRADUATED SERIES
OF
READING-LESSON BOOKS.

BOOK IV.

LONDON
PRINTED BY SPOTTISWOODE AND CO.
NEW-STREET SQUARE

THE
GRADUATED SERIES
OF
READING-LESSON BOOKS

The THIRD Book, price 2s., the SECOND, price 1s. 6d.
the FIRST, price 1s., and lastly the FIFTH, price 3s., will speedily
be published in the above order, completing the *Graduated*
Series of FIVE Reading-Lesson Books.

LONDON:
LONGMAN, GREEN, LONGMAN, AND ROBERT
1859.



THE
GRADUATED SERIES
OF
READING-LESSON BOOKS.

INTRODUCTION.

1. To those engaged in the work of elementary education it cannot fail to have been a matter of surprise that, while within recent times no labor has been spared to improve and perfect handbooks for special branches of knowledge, little or nothing has been done, at least systematically, to facilitate the acquirement of the art of reading. In the vast majority of schools the reading-books in current use are the same, or nearly the same, as those which were popular some fifteen, twenty, or even thirty years ago. This circumstance is certainly not a little remarkable, considering the advance which has been made within the last quarter of a century in the methods of elementary instruction; but it appears still more remarkable when we consider to how great an extent, in teaching reading, even the best teachers are dependent for success on the books they employ. In giving a lesson to a class in any of the mathematical or physical sciences, a skilful and zealous master easily rises above the imperfections of his text-book: from his own stores of knowledge he corrects what may be erroneous, and vivifies or supplements what may be tedious or defective. But a bad reading-book presents obstacles which can never be entirely surmounted. It is a perpetual source of weariness to the teacher as well as to the pupil. The present Series owes

its origin to a strong conviction that much of the difficulty experienced in teaching reading, and of the languor and listlessness which pervade the atmosphere of schools, is to be ascribed to the unsatisfactory nature of the reading-books in general use, which are founded either upon no principle at all, or upon one-sided and therefore erroneous principles. The principles which have guided the Editor of the present compilation are, it is believed, those which are now regarded by our best educators as firmly established.

2. As the title imports, a leading feature of "The Graduated Series" will be the graduation of the difficulty of the lessons. This feature characterises, indeed, in a greater or less degree, all school reading-books which have any pretensions to the name. But the novelty of the present project is, that it seeks to base the idea of graduation on a more philosophical foundation than existing works of the same kind have attempted to do. Even where a consistent endeavor to graduate the difficulty of the lessons is capable of being recognised in the reading-books ordinarily employed, it is invariably found that a mechanical rule has been followed, which removes some impediments while it leaves many others actually untouched. It has hitherto been the practice to graduate reading-lessons, almost exclusively either according to the complexity of the grammatical constructions, or according to the difficulty of the words which occur in them. This practice has resulted from a too limited view of what the term "reading" should imply. A lesson cannot be said to be properly *read* unless it is fully *comprehended*; and it obviously by no means follows that a lesson is easy of comprehension because it exhibits a scarcity of unusual words and constructions. A sentence which may be uttered and grammatically analysed with great facility, may present a very hard problem to the intellect. This is a consideration of the utmost consequence. In graduating the lessons of the present Series, the Editor has had reference, not only to their verbal and grammatical peculiarities, but also to the general calibre of mind requisite to understand and appreciate the ideas which they express.

3. "The Graduated Series" will differ not less widely from

its predecessors in the subject matter than in the arrangement of the lessons. Most of the present reading-books either abound in abstract essays, and in rhetorical or poetical common-places, or they consist of compendious and unadorned outlines of some of the branches of natural science. The objection to both classes of books is, that they are essentially uninteresting to the youthful mind. The latter class has been especially in vogue since it has become customary to talk of the necessity of imparting information in schools on what has of late years been termed "Common Things." It has been too often forgotten that the communication of this sort of knowledge, however useful it may be, is secondary in importance to the cultivation of a taste for reading, and to the training of the power and the habit of independent thinking and observation. But it is beginning to be recognised, that one of the most infallible ways of creating a distaste for inquiry into the construction and phenomena of the material universe, is to burden the mind with a mass of technical facts ; that such facts are not necessarily wholesome food merely because they bear upon subjects which are "familiar" to every one ; and that the question whether they are available in an educational point of view, must always depend on the form and style in which they are presented to the intellect, and on the relation in which they stand to antecedent knowledge. Nor are the materials of good reading-lessons to be looked for in what are known as "Rhetorical Extracts." The range of thought to which such selections appeal is generally wider and deeper than a youth can compass. It is obvious that the pupil should be made to read of things which awaken his sympathy, not of things which lie beyond the sphere of his sympathy. A point of cardinal importance is, that unless his interest is excited, he never reads well. On the other hand, it is astonishing how much knowledge of elocution he almost intuitively displays if his mind only perceives vividly, and warmly enters into, the matter of which he reads. The element of attractiveness is thus indispensable in every reading-lesson. It is believed that, in the unusual prominence which it gives to this element, "The Graduated Series" will be found to present a contrast to

those with which it enters into competition, and to provide the best of all substitutes for the old schemes of "rules for reading," for the discontinuance of which it is a sufficient argument that they have never served any purpose but to annoy and embarrass.

4. The charge of encouraging desultory and immethodical thinking is frequently and with justice preferred against the employment of books of miscellaneous extracts for educational purposes. A strenuous endeavor has been made by the Editor of the present Series to obviate this charge. He has by no means attempted to exhaust subjects systematically; but he has striven so to select and arrange, that each lesson will either prepare the way for something which follows, or throw additional light on something which goes before. In other words, he has throughout aimed at a certain continuity in the treatment of topics. Beginning with rapid and rudimentary sketches, which rouse rather than gratify the appetite, he has endeavored to lead the pupil, by gradations as nearly imperceptible as possible, to a somewhat deliberate and special survey of the great departments of human knowledge, and to an approximate estimate of their relations and proportions.

5. Care has been taken, without violating the principle of a graduated arrangement as already laid down, to preserve a natural sequence in certain cases in which convenience obviously demanded it. In Book IV., for example, the order of the lessons in Natural History corresponds to the order of those in the Geographical Section. All the historical extracts are arranged chronologically.

6. It is no part of the Editor's plan to supplant the excellent Text-Books of special instruction already in existence. In certain instances, however, where a vivid conception of salient points of interest in history and natural science could be presented within reasonable compass, pieces have been furnished, either as compilations, or as original contributions. But this has been done chiefly with a view to encourage reference to sources named, or to stimulate to further research.

P R E F A C E.

IN introducing to the public the first in order of issue of the Graduated Series, it is necessary to direct attention to an expedient which has been adopted with the view of rendering the lessons suitable for the purposes of collective teaching.

Every schoolmaster must have experienced the difficulty of apportioning a necessarily short reading lesson, so that every individual in an ordinary class may have a fair share of reading exercise. Either each scholar reads a portion which, for the sake of shortness is incomplete in sense, or for the sake of completeness is so long as to encroach on the claims of the rest.

In some cases, the plan of limiting an individual exercise by a period has been hitherto followed on the ground of its intelligibility, as a mechanical rule, and because of the necessity of giving each member of a class, more or less, an active share in the lesson ; in others, a paragraph is given to each, on the argument that the object of reading aloud is best gained by the oral association of the whole of the sentences that bear upon one part of a subject.

The plan of arresting a reader at a full stop, merely because it is a convenient grammatical ending, is only defensible as an adaptation to the *apparent* exigencies of a school. It is, without doubt, indispensable that each pupil should play his part ; but it by no means follows that the reading of a disjointed statement or fraction of an illustration, merely in order that the pupil may have, at separate intervals, two mechanical exercises instead of one, is the quickest mode of attaining the object of the art of reading. Again, if it be allowed that reading is capable of being made an intellectual as well as a technical art, the plan of reading by paragraphs is unobjectionable ; but the practical necessity of extending one short lesson over a considerable number, and within a limited period of time, interposes an

obstacle of some magnitude. In that case, the reading of a lesson must be repeated to an extent that may prove irksome, or the majority must suffer, under the restrictions of the "time table," from having no active share in the lesson at all. Obviously it is as important not to invade the rights and requirements of the many for the sake of the few, as it is to avoid dispersing over all a technical privilege in lieu of an intellectual benefit.

The Editor of the Graduated Series has therefore presented to schoolmasters an opportunity of adopting a middle course, which, it is hoped, will answer both purposes, without disturbing the *original* arrangement of paragraphs. Where a paragraph occurs without interruption, it is intended as a *single* reading exercise; but where a "metal rule" (...) is inserted at the end of a sentence in the body of a paragraph, this also is proposed as the limit of a separate exercise. Each division, occurring at the end of one or more sentences, presents, consistently with the practical necessities of collective teaching, a completed observation or a *connected* series of statements, an entire picture or a portion of an illustration intelligible *per se*. This plan has the additional advantage of affording a resting point for such *particular* questioning as may be considered necessary.

While many of the selections have been carefully abridged, and otherwise adapted for the present series, the peculiarities of thought and expression of the originals have been retained; and, for obvious reasons, any effort to originate directions for emphasis, modulation, &c., has been considered superfluous. In this stage of advancement, such directions at once discourage individual effort on the part of the reader, and deprive the teacher of a valuable test for measuring the comparative capacities of his pupils; they are therefore diametrically opposed to the aim and object of reading.

The Editor begs to tender his thanks to the publishers, and especially to the distinguished authors who have accorded him the privilege of availing himself of their copyright publications, many of which would have long remained unknown and inaccessible to the class for whom the present Series is particularly *ed.*

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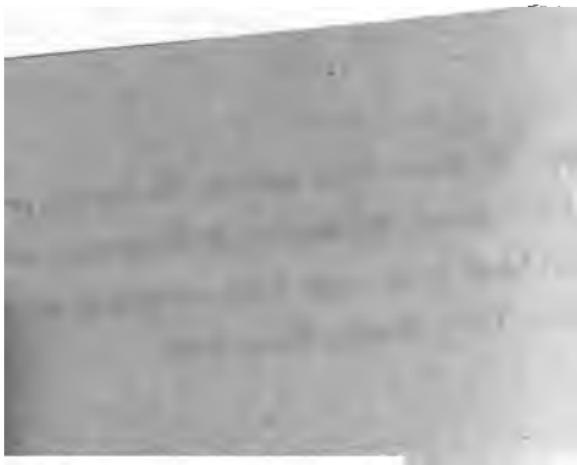
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THE
GRADUATED SERIES
OF
READING-LESSON BOOKS

FOR ALL CLASSES OF ENGLISH SCHOOLS.

IN FIVE BOOKS.

BOOK THE FOURTH.

LONDON:
LONGMAN, GREEN, LONGMAN, AND ROBERTS.
1859.

MISCELLANEOUS.

READING.

CRAFTY men contemn studies, simple men admire them, and wise men use them. Read not to contradict or confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested ; that is, some books are to be read only in parts ; others to be read, but not curiously ; and some few to be read wholly, and with diligence and attention. Reading maketh a full man, conference a ready man, and writing an exact man ; and, therefore, if a man write little, he had need have a present wit ; and if he read little, he had need have much cunning to seem to know that he doth not.

Bacon.

If I were to pray for a taste which should stand by me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading. I speak of it of course only as a worldly advantage, and not in the slightest degree derogating from the higher office, and sure and stronger panoply of religious principles, but as a taste, an instrument, a source of pleasurable gratification. Give a man this taste, and the means of gratifying it, and you can hardly fail of making him a happy man, unless, indeed, you put into his hand a most perverse selection of books. You place him in contact with the best society in every period of history ; with the wisest, the wittiest, with the tenderest, the bravest, and the purest characters who have adorned humanity. You make him a denizen of all nations, a contemporary of all ages. The world has been created for him. It is hardly possible but that the character should take a higher and a better tone from the habit of associating in thought with a class of thinkers, to say the least of it, above the average of humanity. It is morally impossible but that the manners should take a tinge of good breeding and civilisation from having constantly before our eyes the way in which the best bred and best informed men have talked and conducted themselves in their intercourse with each

other. There is a gentle but perfectly irresistible coercion, in a habit of reading well directed, over the whole tenor of a man's character and conduct, which is not the less effectual, because it works insensibly, and because it is really the last thing he dreams of. It civilises the conduct of men, and suffers them not to remain barbarous.

Herschel.

DIFFUSION OF KNOWLEDGE.

IN looking at our age, I am struck, immediately with one commanding characteristic, and that is, the tendency in all its movements to expansion, to diffusion, to universality. To this, I ask your attention. This tendency is directly opposed to the spirit of exclusiveness, restriction, narrowness, monopoly, which has prevailed in past ages ... Human action is now freer, more unconfined. All goods, advantages, helps, are more open to all. The privileged petted individual is becoming less, and the human race are becoming more. The multitude is rising from the dust. Once we heard of the few, now of the many; once of the prerogatives of a part, now of the rights of all ... We are looking, as never before, through the disguises, envelopments of ranks and classes, to the common nature which is below them; and are beginning to learn that every being who partakes of it, has noble powers to cultivate, solemn duties to perform, inalienable rights to assert, a vast destiny to accomplish. ... The grand idea of humanity, of the importance of man as man, is spreading silently, but surely. Not that the worth of the human being is at all understood as it should be; but the truth is glimmering through the darkness. A faint consciousness of it has seized on the public mind. Even the most abject portions of society are visited by some dreams of a better condition, for which they were designed ... The grand doctrine that every human being should have the means of self-culture, of progress in knowledge and virtue, of health, comfort, and happiness, of exercising the powers and affections of a man; this is slowly taking its place, as the highest social truth ... That the world was made for all, and not for a few; that society is to care for all; that no human being shall perish but through his own fault; that the great end of government is to spread a shield over the rights of all; these propositions are growing into axioms, and the spirit of them is coming forth in all the departments of life.

If we look at the various movements of our age, we shall see in them this tendency to universality and diffusion. Look,

first, at science and literature. Where is science now? Locked up in a few colleges, or royal societies, or inaccessible volumes? Are its experiments mysteries for a few privileged eyes? Are its portals guided by a dark phraseology, which, to the multitude, is a foreign tongue? ... No; science has now left her retreats, her shades, her selected company of votaries, and with familiar tone begun the work of instructing the race. Through the press, discoveries and theories, once the monopoly of philosophers, have become the property of the multitude ... Its professors, heard, not long ago, in the university or some narrow school, now speak in the Mechanics' Institute. The doctrine that the laborer should understand the principles of his art, should be able to explain the laws and processes which he turns to account; that instead of working as a machine, he should join intelligence to his toil, is no longer listened to as a dream ... Science, one of the greatest of distinctions, is becoming popular. A lady gives us conversations on chemistry, revealing to the minds of our youth the laws of nature, which, fifty years ago, had not dawned on the greatest minds ... The school-books of our children contain grand views of the creation. There are parts of our country in which Institutes spring up in almost every village, for the purpose of mutual aid in the study of natural science. The characteristic of our age, then, is not the improvement of science, rapid as this is, so much as its extension to all men.

The same characteristic will appear, if we inquire into the use now made of science. Is it simply a matter of speculation? a topic of discourse? an employment of the intellect? In this case, the multitude, with all their means of instruction, would find in it only a hurried gratification ... But one of the distinctions of our time is, that science has passed from speculation into life. Indeed it is not pursued enough for its intellectual and contemplative uses. It is sought as a mighty power, by which nature is not only to be opened to thought, but to be subjected to our needs. It is conferring on us that dominion over earth, sea, and air, which was prophesied in the first command given to man by his Maker; and this dominion is now employed, not to exalt a few, but to multiply the comforts and ornaments of life for the multitude of men ... Science has become an inexhaustible mechanician; and by her forges, and mills, and steam cars, and printers' presses, is bestowing on millions not only comforts, but luxuries which were once the distinction of a few.

Another illustration of the tendency of science to expansion

and universality may be found in its aims and objects. Science has burst all bonds, and is aiming to comprehend the universe, and thus it multiplies fields of inquiry for all orders of minds.... There is no province of nature which it does not invade. Not content with exploring the darkest periods of human history, it goes behind the birth of the human race, and studies the stupendous changes which our globe experienced for hundreds of centuries, to become prepared for man's abode. Not content with researches into visible nature, it is putting forth all its energies to detect the laws of invisible and imponderable matter ... Difficulties only provoke it to new efforts. It has laid open the secrets of the polar ocean, and of hitherto untrodden barbarous lands. Above all, it investigates the laws of social progress, of arts, and institutions of government, and political economy, proposing as its great end the alleviation of all human burdens, the weal of all the members of the human race. In truth, nothing is more characteristic of our age than the vast range of inquiry which is opening more and more to the multitude of men ... Thought frees the old bounds to which men used to confine themselves. It holds nothing too sacred for investigation. It calls the past to account; and treats hoary opinions as if they were of yesterday's growth. No reverence for authority drives it back. No great name terrifies it. The foundations of what seems most settled must be explored.

I have hitherto spoken of science, and what is true of science is still more true of literature. Books are now placed within reach of all. Works, once too costly except for the opulent, are now to be found on the laborer's shelf. Genius sends its light into cottages. The great names of literature have become household words among the crowd... Every party, religious or political, scatters its sheets on all the winds ... We may lament, and too justly, the small comparative benefit as yet accomplished by this agency; but this ought not to surprise or discourage us. In our present state of improvement, books of little worth, deficient in taste and judgment, and ministering to men's prejudices and passions, will almost certainly be circulated too freely ... Men are never very wise and select in the exercise of a new power. Mistake, error, is the discipline through which we advance. It is an undoubted fact, that, silently, books of a higher order are taking place of the worthless. Happily, the instability of the human mind works sometimes for good, as well as evil; men grow tired at length even of amusements.

The remarks now made on literature, might be extended to *the fine arts*. In these we see, too, the tendency to universal-

ity ... It is said, that the spirit of the great artists has died out; but the taste for their works is spreading. By the improvements of engraving, and the invention of casts, the genius of the great masters is going abroad. Their conceptions are no longer pent up in galleries open to but few, but meet us in our homes, and are the household pleasures of millions ... Works, designed for the halls and eyes of emperors, popes, and nobles, find their way, in no poor representations, into humble dwellings, and sometimes give a consciousness of kindred powers to the child of poverty. The art of drawing, which lies at the foundation of most of the fine arts, and is the best education of the eye for nature, is becoming a branch of common education.

Thus, we see in the intellectual movements of our times, the tendency to expansion, to universality; and this must continue. It is not an accident, or an inexplicable result, or a violence on nature; it is founded in eternal truth. Every mind was made for growth, for knowledge; and its nature is sinned against, when it is doomed to ignorance ... Every being is intended to acquaint himself with God and his works, and to perform wisely and disinterestedly the duties of life. Accordingly, when we see the multitude of men beginning to thirst for knowledge, for intellectual action, for something more than animal life, we see the great design of Nature about to be accomplished; and society, having received this impulse, will never rest till it shall have taken such a form as will place within every man's reach the means of intellectual culture ... This is the revolution to which we are tending: and without this, all outward political changes would be but children's play, leaving the great work of society yet to be done.

Channing.

“ WITH BRAINS, SIR.”

“ PRAY, Mr. Opie, may I ask what you mix your colors with? ” said a brisk *dilettante* student to the great painter. “ With *brains*, sir, ” was the gruff reply, and the right one. It did not give much of what we call information, but it was enough to awaken the inquirer ... Many other artists, when asked such a question, would have set about detailing the mechanical composition of such and such colors, in such and such proportions, rubbed so and so; or perhaps they would have shown him how they laid them on; but even this would leave him at the critical point. Opie preferred going to the quick and the heart of the matter: “ With *brains*, sir.”

Sir Joshua Reynolds was taken by a friend to see a picture.

He was anxious to admire it, and he looked it over with a keen and careful eye. "Capital composition; correct drawing; the color, tone, excellent; but — but — it wants — it wants — *That!*" snapping his fingers; and, wanting "That," though it had everything else, it was worth nothing.

Again, Etty was appointed teacher of the students of the Royal Academy; having been preceded by a clever, talkative, scientific expounder of aesthetics, who delighted to tell the young men *how* everything was done, *how* to copy this, and *how* to express that. A student came up to the new master: "How should I do this, sir?" "Suppose you try." Another: "What does this mean, Mr. Etty?" "Suppose you look." "But I have looked." "Suppose you look again." ... And they *did* try, and they *did* look, and looked again; and they saw and achieved what they never could have done, had the "How" or the "What" been told them, or done for them ... In the one case, sight and action were immediate, exact, intense, and secure; in the other, mediate, feeble, and lost as soon as gained. Seeing is the passive state, and at best only registers; looking is a voluntary act: it is the man within coming to the window.

So, young friends, bring *Brains* to your work, and mix everything with them, and them with everything. Let "*Tools, and a man to use them*" be your motto. Stir up, direct, and give free scope to Sir Joshua's "*That*," and try again and again, and look at everything for yourselves. *Dr. J. Brown.*

KNOW BEFORE YOU SPEAK.

AMONGST the petty dishonesties of common life, there are some more hurtful, but, perhaps, none more paltry, than that of pretending to know where one is ignorant. It is a fault into which many not ill-meaning persons are drawn, from a false shame which would probably be checked, if any immediate evil consequences seemed likely to flow from it ... They dislike to appear at a loss, or defeated, or under a short-coming about any thing; and thus are tempted either to affect knowledge where they have it not, or in some way to allow it to be supposed that they are not ignorant. For example; some one advert's to a fact in science with which he is familiar.

Perhaps it is brought forward for the instruction or entertainment of the rest, perhaps to show his own knowledge, perhaps only in the fair course of conversation; no matter how it may be in this respect, the point at present in question is,

the want of candor in the persons whom he is addressing, in hearing as if they understood that and all the related facts, putting on an intelligent look, assenting to the proposition as if convinced of its soundness, and, perhaps, even hazarding some remarks, that may favor the supposition of their being as well informed on the subject as the first speaker ... Or, perhaps, a passage of a classic or foreign author is quoted, pedantically or otherwise, it matters not; what I have to remark is, the unconsciousness of the rest of the company, or of particular members of it, in letting the thing pass as an intelligible part of the discourse, and appearing to sanction its appositeness, when in reality, they are either altogether ignorant of the language in which it is written, or have been unable to follow the sense of the passage with any degree of clearness.

When any rational and well-meaning person feels himself tempted into such courses, let him only consider how absurd it is to suppose, that there can be any real disgrace in being ignorant of any particular fact whatever. Science is a vast field, so is learning, insomuch that there can be no man in existence acquainted with the whole of either. The most eminent in both scientific knowledge and learning know only a part, and are liable to be found ignorant of much. This is well known, and universally allowed by the really educated.

When, therefore, any ordinary person is found unacquainted with some particular fact, or even with some entire science, or some whole language, there is no reason why he should be deemed a generally ignorant man. It may be presumed that, if he is ignorant of one thing, he is conversant with another, as is the case with the most eminent students; and thus he may pass very well, though openly acknowledging that, on the point in question, he is blank as a new-born babe. For example, how well may a man fulfil his duties in the world, and how well informed may he be in what is useful and serviceable, although he does not know one fact in the topography of Ceylon!

If these considerations fail, let us only reflect for a moment on the disgrace of being detected in an attempt to conceal ignorance. There is a story of Sheridan having once apparently quoted a passage from a Greek poet in the House of Commons, when in reality he only uttered a gabble resembling Greek. An honorable gentleman, who spoke after him, fully assented to the application of the passage to the case in question ... How inevitably ridiculous must that man have appeared when Sheridan disclosed the trick! This is a dishonor, to which every one is exposed who, in any way, however slight or negative, affects to appear knowing where he is ignorant.

The practice is also to be regarded as very injurious to conversation. Indeed, when one remembers how much of the time of most social assemblages is occupied in the vaporings of those who would fain be thought knowing, or in worrying down the assertions hazarded by ignorant effrontery, or in allowing those who know nothing, on the point in question, to speak of something else not called for, merely that they may seem to know something ; and when he contrasts this uninstructive jabber with the comparatively well-authenticated statements to be found in books, he might almost be tempted to think that a page well read is worth a whole evening of ordinary conversation ... Perhaps it would really be so, if there were not in conversation a gratification to a different part of the mental nature, the social feelings, and, also, an excitement which occasionally scintillates new and original ideas, and leads to profitable trains of thought and inquiry for the future.

Speaking vaguely in ignorance, and then defending what has been said, is another of the great banes of conversation in all except highly-accomplished circles ; and I have often wished for the presence of some one who, having committed a whole encyclopædia, almanac, and ready-reckoner to his mind, would be able to correct all wide and false speaking, and thus check long endless discussions in the outset... I once witnessed the good effects of such a monitor, in the course of an excursion in an Irish steamer. Some young men were delivering their ideas about a variety of matters in the usual loose way, and one of them, at length, remarked of the pyramids, that they were so very high, that he verily believed the Wicklow hills were a joke to them.

"I should think not," said a solemn, quiet-looking man. "The pyramids are known to be very much less than the Wicklow mountains." "And did you ever see the pyramids, then?" "No, sir." "But I have ; and I can tell you, the Wicklow hills are nothing at all beside them."

"I am sorry, sir," resumed the solemn man, "that I cannot join you in that opinion. Although I have not seen the pyramids, I know their measure by the accounts of the best authors. The largest is now fixed at five hundred and forty-three feet high. But the Wicklow hills are generally from two to three thousand feet."

It was, of course, unimportant to have this out-of-the-way knowledge at command ; but its effect in the present case, in stopping short what would probably have been an incessant wrangle for the remainder of the voyage, made me truly thankful, that the solemn man had chanced to be of our company.

I am no advocate for all men being crammed with facts such as those which this individual could bring forth so readily ; but it is surely no unreasonable demand that, when men are totally ignorant of any subject, they should refrain from disputing about it ; that, in short, they should **KNOW BEFORE THEY SPEAK.**

Robert Chambers.

PRAISE AND BLAME.

MUCH harm may be done to a youth by indiscreet praise, and by indiscreet blame ; but remember, the chief harm is always done by blame. It stands to reason that a young man's work cannot be perfect. It *must* be more or less ignorant ; it must be more or less feeble ; it is likely that it may be more or less experimental, and if experimental, here and there mistaken... If, therefore, you allow yourself to launch out into sudden barking at the first faults you see, the probability is that you are abusing the youth for some defect naturally and inevitably belonging to that stage of his progress ; and that you might just as rationally find fault with a child for not being as prudent as a privy councillor, or with a kitten for not being as grave as a cat... But there is one fault which you may be quite sure is unnecessary, and, therefore, a real and blameable fault : that is, haste, involving negligence. Whenever you see that a young man's work is either bold or slovenly, then you may attack it firmly, sure of being right. If his work is bold, it is insolent ; repress his insolence : if it is slovenly, it is indolent ; spur his indolence. So long as he works in that dashing or impetuous way, the best hope for him is in your contempt : and it is only by the fact of his seeming not to seek your approbation that you may conjecture he deserves it.

But if he does deserve it, be sure that you give it him, else you not only run a chance of driving him from the right road by want of encouragement, but you deprive yourself of the happiest privilege you will ever have of rewarding his labor. For it is only the young who can receive much reward from men's praise : the old, when they are great, get too far beyond and above you to care what you think of them... Then you may urge them with sympathy, and surround them then with acclamation ; but they will doubt your pleasure, and despise your praise. You might have cheered them in their race through the asphodel meadows of their youth ; you might have brought the proud, bright scarlet into their faces, if you had but cried once to them, "*Well done,*" as they dashed up

to the first goal of their early ambition ... But now, their pleasure is in memory, and their ambition is in heaven. They can be kind to you, but you never more can be kind to them. You may be fed with the fruit and fulness of their old age, but you were as the nipping blight to them in their blossoming, and your praise is only as the warm winds of autumn to the dying branches.

There is one thought still, the saddest of all, bearing on this withholding of early help. It is possible, in some noble natures, that the warmth and the affection of childhood may remain unchilled, though unanswered ; and that the old man's heart may still be capable of gladness, when the long-withheld sympathy is given at last ... But in these noble natures it nearly always happens, that the chief motive of earthly ambition has not been to give delight to themselves, but to their parents. Every noble youth looks back, as to the chieftest joy which the world's honor ever gave him, to the moment when he first saw his father's eyes flash with pride, and his mother turn away her head, lest he should take her tears for tears of sorrow ... Even the lover's joy, when some worthiness of his is acknowledged before his mistress, is not so great as that, for it is not so pure : the desire to exalt himself in her eyes mixes with that of giving her delight ; but he does not need to exalt himself in his parents' eyes : it is with the pure hope of giving them pleasure that he comes to tell them what he has done, or what has been said of him ; and, therefore, he has a purer pleasure of his own ... And this purest and best of rewards you keep from him if you can : you feed him in his tender youth with ashes and dishonor ; and then you come to him, obsequious, but too late, with your sharp laurel-crown, the dew all dried from off its leaves ; and you thrust it into his languid hand, and he looks at you wistfully. What shall he do with it ? What can he do, but go and lay it on his mother's grave ?

Ruskin.



THE HANDSOME AND THE DEFORMED LEG.

THERE are two sorts of people in the world, who, with equal degrees of health and wealth, and the other comforts of life, become, the one happy, and the other miserable. This arises very much from the different views in which they consider things, persons, and events ; and the effect of those different views upon their own minds.

In whatever situation men can be placed, they may find con-

ces and inconveniences : in whatever company, they may persons and conversation more or less pleasing ; at whatever, they may meet with meats and drinks of better and taste, dishes better and worse dressed : in whatever , they will find good and bad weather ; under whatever ent, they will find good and bad laws, and good and ministration of those laws ; in whatever poem, or work ius, they may see faults and beauties ; in almost every nd every person, they may discover fine features and , good and bad qualities.

er these circumstances, the two sorts of people above-
ned fix their attention ; those who are disposed to be
on the conveniences of things, the pleasant parts of con-
on, the well-dressed dishes, the goodness of the wines,
e weather, &c., and enjoy all with cheerfulness. Those
e to be unhappy, think and speak only of the contraries.

they are continually discontented themselves, and by
remarks, sour the pleasures of society, offend many
, and make themselves everywhere disagreeable ... If
rn of mind was founded in nature, such unhappy per-
ould be the more to be pitied. But as the disposition
cise, and to be disgusted, is, perhaps, taken up originally
itation, and is, unawares, grown into a habit, which,
at present strong, may nevertheless be cured, when
who have it are convinced of its bad effect on their
ess, I hope this little admonition may be of service to
and induce them to change a habit, which, though in the
e it is chiefly an act of imagination, yet it has serious
uences, as it brings on real griefs and misfortunes ... For,
y are offended by, and nobody loves, this sort of people,
> shows them more than the most common civility and
; and this frequently puts them out of humor, and
them into disputes and contentions ... If they aim at ob-
; some advantage in rank or fortune, nobody wishes them
, or will stir a step or speak a word to favor their pre-
is. If they incur public censure or disgrace, no one will
or excuse, and many join to aggravate their misconduct,
der them completely odious ... If these people will not
this bad habit, and condescend to be pleased with what
sing, without fretting themselves or others about the con-
, it is good for others to avoid an acquaintance with
which is always disagreeable, and sometimes very incon-
t, especially when one finds one's self entangled in their
ls.

old philosophical friend of mine had grown, from expe-

rience, very cautious in this particular, and carefully avoided any intimacy with such people...He had, like other philosophers, a thermometer to show him the heat of weather, and a barometer to mark when it was likely to prove good or bad ; but there being no instrument invented to discover, at first sight, this unpleasing disposition in a person, he, for that purpose, made use of his legs ; one of which was remarkably handsome ; the other, by some accident, crooked and deformed ... If a stranger, at first interview, regarded his ugly leg more than his handsome one, he doubted him. If he spoke of it, and took no notice of the handsome leg, that was sufficient to determine my philosopher to have no farther acquaintance with him. ... Everybody has not this two-legged instrument ; but every one, with a little attention, may observe signs of that carping, fault-finding disposition, and make the same resolution of avoiding the acquaintance of those infected with it. I therefore advise those critical, querulous, discontented, unhappy people, if they wish to be respected and beloved by others, and happy in themselves, they should *leave off looking at the ugly leg.*

Franklin.

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THE BIRDCATCHER AND HIS CANARY.

IN the town of Cleves, an English gentleman was residing with a Prussian family, during the time of the fair, which we shall pass over, having nothing remarkable to distinguish it from other annual meetings where people assemble to stare at, cheat each other, and divert themselves, and to spend the year's savings in buying those bargains which would have been probably better bought at home.

One day, after dinner, as the dessert was just brought on the table, the travelling German musicians, who commonly ply the houses at these times, presented themselves, and were suffered to play ; and just as they were making their bows for the money they had received for their harmony, a bird-catcher, who had rendered himself famous for educating and calling forth the talents of the feathered race, made his appearance, and was well received by the party, which was numerous and benevolent.

The musicians, who had heard of this birdcatcher's fame, asked permission to stay ; and the master of the house, who had a great share of good-nature, indulged their curiosity ; a curiosity, indeed in which every one participated ; for all

that we have heard or seen of learned pigs, goats, dogs, and horses, was said to be extinguished in the wonderful wisdom which blazed in the genius of this birdcatcher's canary.

The canary was produced, and the owner harangued him in the following manner, placing him upon his forefinger : "My jewel, you are now in the presence of persons of great sagacity and honor; take care you do not deceive the expectations they have conceived of you from the world's report. You have won laurels; beware, then, of erring. In a word, deport yourself like the jewel of the canary birds, as you certainly are."

At this time the bird seemed to listen, and indeed placed himself in the true attitude of attention, by sloping his head to the ear of the man, and then distinctly nodding twice when his master left off speaking; and, if ever nods were intelligible and promissory, these certainly were.

"That's good," said the master, pulling off his hat to the bird. "Now, then, let us see if you are a canary of honor. Give us a tune." The canary sang.

"Pshaw! that's too harsh; 'tis the note of a raven, with a hoarseness upon him; something pathetic." The canary whistled as if his little throat were changed to a lute.

"Faster," says the man, "slower, very well! what is this foot about, and this little head? No wonder you are out, when you forget your time. That's a jewel, bravo! bravo! my little man!"

All that he was ordered or reminded of, did he do to admiration. His head and foot beat time, humored the variations both of tone and movement: and "the sound was a just echo of the sense," according to the strictest law of poetical, and of musical composition.

"Bravo!" "bravo!" re-echoed from all parts of the dining-room. The musicians declared the canary was a greater master of music than any of their band.

"And do you not show your sense of this civility, sir?" cried the birdcatcher, with an angry air. The canary bowed most respectfully, to the great delight of the company.

His next achievement was going through the martial exercise with a straw gun; after which, "My poor jewel," says the owner, "thou hast had hard work, and must be a little weary; a few performances more and thou shalt repose. Show the ladies how to make a courtesy." The bird here crossed his taper legs, and sank and rose with an ease and grace that would have put half our young ladies to the blush.

"That will do, my bird! and now a bow, head and foot cor-

responding." Here the striplings for ten miles round London might have blushed also.

"Let us finish with a hornpipe, my brave little fellow; that's it, keep it up, keep it up!"

The activity, glee, spirit, and accuracy with which this last order was obeyed, wound up the applause, in which all the musicians joined, to the highest pitch of admiration. "Jewel" himself seemed to feel the sacred thirst of fame, and shook his little plumes, and carolled a *pæan*, that sounded like the conscious notes of victory.

"Thou hast done all my biddings bravely," said the master, caressing his feathered servant: "now, then, take a nap, while I take thy place."

Hereupon the canary went into a counterfeit slumber, first shutting one eye, then the other, then nodding, then dropping so much on one side, that the hands of several of the company were stretched out to save him from falling; and just as those hands approached his feathers, suddenly recovering, and dropping as much on the other.

At length sleep seemed to fix him in a steady posture, whereupon the owner took him from his finger, and laid him flat on the table, where the man assured us he would remain in a good sound sleep, while he himself would have the honor to do his best to fill up the interval.

While the little bird was thus exhibiting, a huge black cat, which, doubtless, had been on the watch from some unobserved corner, sprang upon the table, seized the poor canary in its mouth, and rushed out of the window in despite of all opposition. Though the dining-room was emptied in an instant, it was a vain pursuit; the life of the bird was gone, and its mangled body was brought in by the unfortunate owner in such dismay, accompanied by such looks and language, as must have awakened pity even in a misanthrope. He spread himself half length over the table, and mourned his canary-bird with the most undissembled sorrow.

It is needless to observe, that every one of the company sympathised with him, but none more so than the band of musicians, who, being engaged in a profession that naturally keeps the sensibilities more or less in exercise, felt the distress of the poor birdman with peculiar force. It was really a banquet to see these people gathering themselves into a knot, and, after whispering, wiping their eyes, and cheeks, depute one from among them to be the medium of conveying into the pocket of the birdman, the very contribution they had just before received for their own efforts.

Having wrapped up their contribution, they contrived to put it into the poor man's pocket. As soon as he became aware of what they had done, he took from his pocket the little parcel they had rolled up, and brought out with it, by an unlucky accident, another little bag, at the sight of which he was extremely agitated, for it contained the canary-seed, the food of the "dear lost companion of his heart."

There is no giving language to the effect of this trifling circumstance upon the poor man; he threw down the contribution-money that he had brought from his pocket along with it, not with an ungrateful but a desperate hand. He opened the bag, which was fastened with red tape, and taking out some of the seed, put it to the very bill of the lifeless bird, exclaiming: "No, poor Jewel! no; thou canst not peck any more out of this hand that has been thy feeding-place so many years; thou canst not remember how happy we both were when I bought this bag full for thee!"

Pratt.

COUSIN DEBORAH'S LEGACY.

COUSIN Deborah was an old unmarried lady, who had no other property than a moderate life annuity. The furniture of her house was faded and antique; the linen was well darned; the plate was scanty, and worn thin by use and frequent scouring; the books were few, and in no very good condition... She had no jewels or trinkets; her days were passed in a dreary state of tranquillity, stitching, stitching, stitching, for ever, with her beloved huge work-box at her elbow. That wanted nothing; for it was abundantly fitted up with worsted, cotton, tape, buttons, bodkins, needles, and such a multiplicity of reels and balls, that to enumerate them would be a tedious task.

Cousin Deborah particularly prided herself on her darning; carpets, house linen, stockings, all bore unimpeachable testimony to this branch of industry. Holes and thin places were hailed with delight by her; and it was whispered, but that might be a mere matter of scandal, that she even went so far as to cut holes in her best tablecloths, for the purpose of exercising her skill and ingenuity in repairing the fractures... Be that as it may, the work-box was as much a companion to her as dogs or cats are to many other single ladies. She was lost without it: her conversation always turned on the subject of thread papers and needle cases; and never was darning cotton more scientifically rolled into neat balls, than by the taper fingers of Cousin Deborah.

The contents of that wonderful work-box would have furnished a small shop. As a child I always regarded it with a species of awe and veneration ; and without daring to lay a finger on the treasures it contained, my prying eyes greedily devoured its mysteries, when the raised edge revealed its mountains of cotton, and forests of pins and needles... I have no doubt that Cousin Deborah first regarded me with favor, in consequence of being asked by my mother to give me a lesson in darning : a most necessary accomplishment in our family, as I was the eldest of many sisters ; and, though very happy among ourselves, the circumstances of our dear parents rendered the strictest industry and frugality absolutely indispensable in order to make "both ends meet."

She was proud of me on the whole, as a pupil, though she sometimes had occasion to reprove me for idleness and skipping stitches ; and between us it is impossible to say how many pairs of stockings we made whole in the course of the year. We resided near our Cousin Deborah ; and many a time I was invited to take tea with her, and bring my workbag in my hand, as a matter of course, and to sit with her for long hours without speaking, intent on our needles, the silence unbroken save by the ticking of the eight-day clock.

I sometimes found it very dull work I confess. Not so Cousin Deborah. She needed no other society than that of her work-box ; and I do not believe she loved any human being so well. Her whole heart was in it ; and the attachment she showed towards me as time went on, was fostered and encouraged by our mutual zeal in performing tasks of needlework. ... Not that I shared in her devotion : I was actuated by a sense of duty alone, and would far rather, could I have done so conscientiously, have been dancing and laughing with companions of my own age... But ply the needle I did, and so did Cousin Deborah ; and we two became, with the huge old work-box between us, quite a pair of loving friends ; and at least two evenings in every week I went to sit with the lone woman. She would have had me do so every evening ; but though there were so many of us at home, our parents could not bear to spare any of us out of their sight too often.

At length Cousin Deborah's quiet and blameless life came to an end. Having shut her work-box, locked it, and put the key in a sealed packet, she turned her face to the wall, and fell asleep. When her will was opened, it was found that she had left books, furniture, and plate, to a family that stood in the same relationship as we did, but who were in much more *prosperous* circumstances than we. To me she devised the huge

old work-box, with all its contents, "in token of the high esteem and affection with which I was regarded" by the deceased. I was to inherit the well-stored work-box, on condition that it was to be daily used in preference to all others... "Every ball of darning cotton, as it diminishes, shall bring its blessing," said Cousin Deborah; "for Ada Benwell is a good girl, and has darned more holes in the stockings of her brothers and sisters than any other girl of her age. Therefore I particularly commend the balls of darning cotton to her notice, and I recommend her to use them up as soon as she can, and she will meet with her reward in due season."

My mother was a little disappointed at the contents of our kinswoman's will, and expressed her displeasure in a few sharp remarks, for which my father gently reproved her. The subject of the legacies was never again discussed by us. The work-box was in constant requisition at my side, and the balls of darning cotton rapidly diminished.

One day as I was sitting beside my mother, busy with my needle, she remarked, "You have followed our poor cousin's directions, my dear Ada. She particularly recommended you to use up the balls of darning cotton as soon as possible; and look, there is one just done."

As my mother spoke, I unrolled a long needleful, and came to the end of that ball. A piece of paper fell to the ground, which had been the nucleus on which the ball was formed. I stooped to pick it up, and was just about throwing it into the fire, when it caught my mother's eye, and she stretched out her hand and seized it. In a moment she unfolded it before our astonished gaze: it was a bank note of fifty pounds.

"O dear misjudged Cousin Deborah!" she exclaimed; "this is our Ada's reward in due season. It's just like her, kind, queer old soul!"

We were not long in using up all the other balls of darning cotton in that marvellous work-box; and such a reward as I found for my industry I never have met with since. Truly it was a fairy box, and my needle the fairy's wand.

No less than ten fifty pound notes were thus brought to light; and my father laughingly declared I had wrought my own dower with my needle. No persuasions could induce him to appropriate the treasure; he said it was my "reward," and belonged to me alone.

Chambers' Journal.

A FOOT RACE: "THE BERKSHIRE FIVES."

I HEARD that the races for the "prime coated Berkshire Fives," as they called the cheeses, were just coming off; so I hurried away to the brow of the hill, just above the White Horse, where it is the steepest; for I wanted, of all things, to see how men could run down this place which I couldn't get up without using both hands.

There stood Mr. William Whitfield, of Uffington, the umpire, who had to start the race, in his broad-brimmed beaver, his brown coat and waistcoat with brass buttons, and drab breeches and gaiters.

I thought him a model yeoman to look at; but I didn't envy him his task. Two wild-looking gipsy women, with their elf locks streaming from under their red handkerchiefs, and their black eyes flashing, were rushing about amongst the runners, trying to catch some of their relations, who were going to run, and screaming out that their men should never break their limbs down that break-neck place. The gipsies dodged about and kept out of their reach, and the farmer remonstrated, but the wild women still persevered ... Then losing all patience, the umpire would turn and poise the wheel, ready to push it over the brow, when a shout from the bystanders warns him to pause, and a little way down the hill, just in the line of the race, appear two or three giggling lasses, hauled along by their sweethearts, and bent on getting a very good view ... At this moment the chairman luckily appeared, and rode his horse down to the front of the line of men, where there seemed to me to be footing for nothing but a goat. Then the course was cleared for a moment; he moved out of the line, making a signal to the farmer, who pushed the wheel at once over the brow, and cried "Off!"

The wheel gained the road in three bounds, cleared it in a fourth monster bound, which measured forty yards, and hurried down far away to the bottom of the manger, where the two other umpires were waiting to decide who is the winner of the race.

Away go the fourteen men in hot pursuit; gipsies, shepherds, and light-heeled fellows of all sorts, helter-skelter; some losing their foothold at once, and rolling or slipping down; some still keeping their footing, but tottering at every step; one or two with their bodies well thrown back, striking their heels into the turf, and keeping a good balance ... They are all in the road together, but here several fall on their faces, and others give in; the rest cross it in a moment, and

are away down the manger ... Here the sheepwalks mislead many, and, amongst the rest, the fleetest of the gipsies, who makes off at full speed along one of them. Two or three men still go boldly down the steep descent, falling and picking themselves up again ; and Jonathan Legg, of Childrey, is the first of these ... He has now gained the flat ground at the bottom, where, after a short stagger, he brings himself up and makes straight for the umpires and the wheel ... The gipsy now sees his error ; and turning short down the hill, comes into the flat, running some twenty yards behind Jonathan. In another hundred yards he would pass him, for he gains at every stride, but it is too late ; and we at the top of the hill cheer loudly when we see Jonathan, the man who had gone straight all the way, touch the wheel a clear ten yards before his more active rival.

Scouring of the White Horse.



THE ART OF ENJOYING LIFE.

If you would enjoy life, it is necessary to be careful in preserving health, by due exercise and great temperance ; for in sickness the imagination is disturbed ; and disagreeable, sometimes terrible, ideas are apt to present themselves... Exercise should precede meals, not immediately follow them : the first promotes ; the latter, unless moderate, obstructs, digestion. If after exercise, we feed sparingly, the digestion will be easy and good, the body lightsome, the temper cheerful, and all the animal functions performed agreeably... Sleep, when it follows, will be natural and undisturbed ; while indolence, with satiety, occasions night-mares and horrors inexpressible : we fall from precipices, are assaulted by wild beasts, murderers, and demons, and experience every variety of distress.

Observe, however, that the quantities of food and exercise, are relative things : those who move much may, and indeed ought, to eat more : those who use little exercise, should eat little. In general, mankind, since the improvement of cookery, eat about twice as much as nature requires. As there is a difference in constitutions, some rest well after glutinous meals ; it costs them only a frightful dream and an apoplexy, after which they sleep till doomsday. Nothing is more common in the newspapers, than instances of people, who, after eating a hearty supper, are found dead in the morning.

Another means of preserving health, to be attended to, is the having a constant *supply of fresh air in your bed-chamber.* It

has been a great mistake, the sleeping in rooms exactly closed, and in beds surrounded by curtains... No outward air, that may come into you, is so unwholesome as the unchanged air, often breathed, of a close chamber. As boiling water does not grow hotter by longer boiling, if the particles that receive greater heat can escape; so living bodies do not putrefy, if the particles, as fast as they become putrid, can be thrown off... Nature expels them by the pores of the skin and lungs, and in a free open air they are carried off; but, in a close room, we receive them again and again, though they become more and more corrupt. A number of persons crowded into a small room, thus spoil the air in a few minutes, and even render it mortal, as in the Black Hole at Calcutta. A single person is said to spoil a gallon of air per minute, and therefore requires a longer time to spoil a chamberful; but it is done, however, in proportion, and many putrid disorders have hence their origin ... It is recorded of Methusalem, who, having been the longest liver, may be supposed to have best preserved his health, that he slept always in the open air; for when he had lived five hundred years, an angel said to him, "Arise, Methusalem, and build thee an house, for thou shalt live yet five hundred years longer." But Methusalem answered and said, "If I am to live but five hundred years longer, it is not worth while to build me an house: I will sleep in the open air as I have been used to do" ... Physicians, after having for ages contended that the sick should not be indulged with fresh air, have at length discovered that it may do them good. It is therefore to be hoped that they may in time discover likewise, that it is not hurtful to those who are in health; and that we may then be cured of the *aerophobia* that at present distresses weak minds, and makes them choose to be stifled and poisoned, rather than leave open the window of a bed-chamber, or put down the glass of a carriage.

Confined air, when saturated with perspirable matter, will not receive more; and that matter must remain in our bodies, and occasion diseases: but it gives some previous notice of its being about to be hurtful, by producing a certain uneasiness, slight indeed at first, such as with regard to the lungs is a stifling sensation, and to the pores of the skin a kind of restlessness which it is difficult to describe, and of which few that feel it know the cause... But we may recollect, that sometimes, on waking in the night, we have, if warmly covered, found it difficult to get to sleep again. We turn often, without finding repose in any position. This fidgetiness is occasioned by an ~~uneasiness~~ in the skin, owing to the retension of the perspirable

matter; the bed-clothes having received their quantity, and, being saturated, refusing to take any more. *Franklin.*

LIBERTY.

“BESHREW the *sombre* pencil,” said I, vauntingly, “for I envy not its powers, which paints the evils of life with so hard and deadly a coloring. The mind sits terrified at the objects she has herself magnified, and blackened; reduce them to their proper size and hue, she overlooks them. ‘Tis true,” said I, “the jail is not an evil to be despised; but strip it of its towers, fill up the moat, unbarricade the doors; call it simply a confinement, and suppose it is some tyrant of a distemper, and not of a man who holds you in it, the evil vanishes, and you bear the other half without complaint.”

I was interrupted in the heyday of this soliloquy with a voice, which I took to be that of a child, which complained, “It could not get out.” I looked up and down the passage, and seeing neither man, woman, nor child, I went out without further attention. In my return back through the passage, I heard the same words repeated twice over; and looking up, I saw it was a starling, hung in a little cage. “I can’t get out; I can’t get out,” said the starling.

I stood looking at the bird; and to every person who came through the passage it ran fluttering to the side towards which they approached it, with the same lamentation of its captivity. “I can’t get out,” said the starling. “God help thee,” said I, “but I will let thee out, cost what it will;” so I turned about the cage to get to the door; it was twisted, and double twisted so fast with wire, there was no getting it open without pulling the cage to pieces. I took both hands to it.

The bird flew to the place where I was attempting his deliverance, and thrusting his head through the trellis, pressed his breast against it as if impatient. “I fear, poor creature,” said I, “that I cannot set thee at liberty.” “No,” said the starling, “I can’t get out; I can’t get out,” said the starling.

I vow I never had my affections more tenderly awakened; nor do I remember an incident in my life where the dissipated spirits, to which my reason had been a bubble, were so suddenly called home. Mechanical as the notes were, yet so true in tune to nature were they chanted, that in one moment they overthrew all my systematic reasoning upon the jail; and I heavily walked upstairs, unsaying every word I had said in going down them.

"Disguise thyself as thou wilt, still, slavery," said I, "still thou art a bitter draught! and though thousands in all ages have been made to drink of thee, thou art no less bitter on that account.

"Tis thou, thrice sweet and gracious goddess," addressing myself to Liberty, "whom all in public or in private worship, whose taste is grateful and ever will be so, till Nature herself shall change; no tint of words can spot thy snowy mantle, or chymic power turn thy sceptre into iron. With thee to smile upon him, as he eats his crust, the swain is happier than his monarch, from whose court thou art exiled. Gracious heaven!" cried I, kneeling down upon the last step but one in my ascent, "grant me but health, thou great Bestower of it, and give me but this fair goddess as my companion, and shower down thy mitres, if it seems good unto Thy divine providence, upon those heads that are aching for them."

The image of the bird in his cage pursued me into my room; I sat down, close by my table, and leaning my head upon my hand, I began to figure to myself the miseries of confinement. I was in a right frame for it, so I gave full scope to my imagination.

I was going to begin with the millions of my fellow-creatures born to no inheritance but slavery; but finding, however affecting the picture was, that I could not bring it near me, and that the multitude of sad groups in it did but distract me, I took a single captive, and having first shut him up in his dungeon, I then looked through the twilight of his grated door to take his picture.

I beheld his body, half wasted away with long expectation and confinement, and felt what kind of sickness of the heart it was which arises from hope deferred. Upon looking nearer, I saw him pale and feverish; in thirty years, the western breeze had not once fanned his blood; he had seen no sun, no moon, in all that time; nor had the voice of friend or kinsman breathed through his lattice. His children—but here my heart began to bleed, and I was forced to go on with another part of the portrait.

He was sitting upon the ground, upon a little straw, in the farthest corner of his dungeon, which was alternately his chair and bed; a little calendar of small sticks was laid at the head, notched all over with the dismal days and nights he had passed there. He had one of these little sticks in his hand, and, with a rusty nail, he was etching another day of misery to add to the heap. As I darkened the little light he had, he lifted up a hopeless eye towards the door, then cast it down, shook his head, and went on with his work of affliction. I

heard the chains upon his legs, as he turned his body to lay his little stick upon the bundle. He gave a deep sigh. I saw the iron enter into his soul; I burst into tears; I could not sustain the picture of confinement which my fancy had drawn.

Sterne.

FLOWERS.

WHY does not every one have a geranium in his window, or some other flower? It is very cheap; its cheapness is next to nothing, if you raise it from seed or from a slip; and it is a beauty and a companion. It sweetens the air, rejoices the eye, links you with nature and innocence, and is something to love. And if it cannot love you in return, it cannot hate you; it cannot utter a hateful thing even for your neglecting it; for, though it is all beauty, it has no vanity.

But, pray, if you choose a geranium, or possess but a few of them, let us persuade you to choose the scarlet kind, the "old original" geranium, and not a variety of it, not one of the numerous diversities of red and white, blue and white, ivy-leaved, &c. Those are all beautiful, and very fit to vary a large collection; but to prefer them to the originals of the race, is to run the hazard of preferring the curious to the beautiful, and costliness to sound taste.

It may be taken as a good general rule, that the most popular plants are the best; for otherwise they would not have become such. And what the painters call "pure colors," are preferable to mixed ones, for reasons which Nature herself has given when she painted the sky of one color, and the fields of another, and divided the rainbow itself into a few distinct colors, and made the red rose the queen of flowers.

Variations in flowers are like variations in music, often beautiful as such, but almost always inferior to the theme on which they are founded, the original air. And the rule holds good in beds of flowers, if they be not very large, or in any other small assemblage of them. Nay, the largest bed will look well, if of one beautiful color, while the most beautiful varieties may be inharmoniously mixed up... We do not, in general, love and honor any one single color enough, and we are instinctively struck with a conviction to this effect, when we see it abundantly set forth. The other day we saw a little garden wall covered with nasturtiums, and felt how much more beautiful it was than if anything had been mixed with it; for the leaves and the light and shade offer variety enough. Ex-

bower a cottage thickly and completely with nothing but roses, and nobody would desire the interference of another plant.

Suppose flowers themselves were new! Suppose they had just come into the world, a sweet reward for some new goodness, and that we had not yet seen them quite developed; that they were in the act of growing, had just issued with their green stalks out of the ground, and engaged the attention of the curious. Imagine what we should feel when we saw the first lateral stem bearing off from the main one or putting forth a leaf... How we should watch the leaf gradually unfolding its little graceful hand; then another, then another; then the main stalk rising and producing more; then one of them giving indications of the astonishing novelty—a bud! then this mysterious bud gradually unfolding like the leaf, amazing us, enchanting us, almost alarming us with delight, as if we knew not what enchantment were to ensue, till at length, in all its fairy beauty, and odorous voluptuousness, and mysterious elaboration of tender and living sculpture, shines forth the blushing flower.

Yet this phenomenon to a person of any thought and lovingness, is what may be said to take place every day; for the commonest objects are wonders at which habit has made us cease to wonder, and the marvellousness of which we may renew at pleasure by taking thought... Last spring, walking near some cultivated grounds, and seeing a multitude of green stalks peeping forth, we amused ourselves with imagining them the plumes or other head gear of fairies, and wondered what faces might ensue; and from this exercise of the fancy, we fell to considering how true, and not merely fanciful, those speculations were, what a perpetual reproduction of the marvellous was carried on by Nature; how utterly ignorant we were of the causes of the least and most disesteemed of the commonest vegetables, and what a quantity of life, and beauty, and mystery, and use, and enjoyment was to be found in them, composed of all sorts of elements, and shaped as if by the hands of fairies... What workmanship with no apparent workman! A tree grows up, and at the tips of his rugged dark fingers, he puts forth round, smooth, and shining delicately, the golden apple or the cheek-like beauty of the peach.

The other day we were in a garden where Indian corn was growing, and some of the ears were plucked to show us. First one leaf or sheath was picked off, then another, another, a fourth, and so on, as if a fruit seller were unpacking his papers; and at last we came, in the inside, to the grains of corn, packed in cucumber shapes of pale gold, and each of them pressed and

flattened against each other, as if some human hand had been doing it in the caverns of the earth. BUT WHAT HAND? The same that made the poor, yet rich, hand (for is it not His workmanship also!) that is tracing these marvelling lines; and if it does not tremble to say so, it is because love sustains, and because the heart also is a flower which has a right to be tranquil in the garden of the All-wise.

Leigh Hunt.

THE QUACK PHILOSOPHER DISCOMFITED.

FOR some time my elder brother turned his thoughts to philosophy, and read lectures to us every night upon some branch or other of physics. This undertaking arose upon some one of us envying or admiring flies for their power of walking upon the ceiling... "Pooh!" he said; "they are impostors; they pretend to do it, but they can't do it as it ought to be done. Ah! you should see *me* standing upright on the ceiling, with my head downwards, for half an hour together, meditating profoundly!" My sister Mary remarked that we should all be very glad to see him in that position... "If that's the case," he replied, "it's very well that all is ready, except as to a strap or two." Being an excellent skater, he had first imagined that, if held up until he had started, he might then, by taking a bold sweep ahead, keep himself in position through the continued impetus of skating... But this he found not to answer; because, as he observed, "the friction was too retarding from the plaster of Paris; but the case would be very different if the ceiling were coated with ice." As it was *not*, he changed his plan... The true secret, he now discovered, was this: he would consider himself in the light of a hum-ming-top; he would make an apparatus (and he made it) for having himself launched, like a top, upon the ceiling, and regularly spun. Then the rotary motion of the human top would overpower the force of gravitation... He should, of course, spin upon his own axis, and sleep upon his own axis, perhaps he might even dream upon it; and he laughed at "those scoundrels, the flies," that never improved in their pretended art, nor made anything of it... The principle was now discovered; "and, of course," he said, "if a man can keep it up for five minutes, what's to hinder him from doing so for five months?" "Certainly, nothing that I can think of," was the reply of my sister, whose doubt in fact had not settled upon the five months, but altogether upon the five minutes.

The apparatus for spinning him, however, perhaps from

its complexity, would not work ; a fact evidently owing to the stupidity of the gardener. On reconsidering the subject, he announced, to the disappointment of some amongst us, that although the physical discovery was now complete, he saw a moral difficulty. It was not a *humming-top* that was required, but a *peg-top*. Now this, in order to keep up the whirl at full stretch, without which, to a certainty, gravitation would prove too much for him, needed to be whipped incessantly. But that was precisely what a gentleman ought not to tolerate ; to be scourged uninterruptedly on the legs, was a thing he could not bring his mind to face.

However, as some compensation to us, he proposed to improve the art of flying, which was, as everybody must acknowledge, in a condition disgraceful to civilised society ... As he had made many a fire-balloon, and had succeeded in some attempts at bringing down cats by *parachutes*, it was not very difficult to fly downwards from moderate elevations. But, as he was reproached by my sister for never flying back again, which, however, was a far different thing, he refused, under such poor encouragements, to try his winged parachutes any more, either "aloft or below :" in the meantime, he resumed his general lectures on physics ... From these, however, he was speedily driven, or one might say shelled out, by a concerted assault of my sister Mary's.

He had been in the habit of lowering the pitch of his lectures with ostentatious condescension to the presumed level of our poor understandings. This superciliousness annoyed my sister ; and accordingly, with the help of two young female visitors, and my next younger brother, she arranged a mutiny, that had the unexpected effect of suddenly extinguishing the lectures for ever ... He had happened to say, what was no unusual thing with him, that he flattered himself he had made the point under discussion tolerably clear ; "clear," he added, bowing round the half circle of us, the audience, "to the meanest of capacities ;" and then he repeated, sonorously, "clear to the most excruciatingly mean of capacities" ... Upon which a voice, a female voice, but whose voice, in the tumult that followed, I did not distinguish, retorted, "No, you haven't ; it's as dark as sin ;" and then, without a moment's interval, a second voice exclaimed : "Dark as night ;" then came my younger brother's insurrectionary yell : "Dark as midnight ;" then another female voice chimed in, melodiously : "Dark as pitch" ... And so the peal continued to come round like a catch, the whole being so well concerted, and the rolling fire so well sustained, that it was impossible to

head against it; whilst the abruptness of the interruption to it the protecting character of an oral "round robin," being impossible to challenge any one in particular as to ring-leader... Burke's epithet of "the swinish multitude," led to mobs, was then in everybody's mouth; and accordingly, after my brother had recovered from his first astonishment at this audacious mutiny, he made us several sweeping strokes, that looked very much like tentative rehearsals of a piping *fusillade*, muttering not very complimentary phrases. We all laughed in chorus at this parting salute; my brother himself condescended at last to join us; but there ended the series of lectures on Natural Philosophy. *De Quincey.*

OCCUPATIONS: THEIR SIGNS AND SEALS.

I know that there exists such a thing as professional character. On some men, indeed, nature imprints so strongly the stamp of individuality, that the feebler stamp of circumstance and position fails to impress them. Such, cases, however, it always be regarded as exceptional. On the average scale of mankind, the special employments which they pursue or the kinds of business which they transact, have the effect of moulding them into distinct classes, each of which bears an artificially induced character.

clergymen, as such, differ from merchants and soldiers, and likewise from lawyers and physicians. Each of these professions has long borne in our literature, and in common opinion, a character so clearly appreciable by the public generally, that, when faithfully reproduced in some new work of fiction, or exemplified by some transaction in real life, it is at once recognised as marked by the genuine class-traits and peculiarities... But professional characteristics descend much lower in the scale than is usually supposed. There is scarcely a trade or a department of manual labor that does not induce its own set of peculiarities; peculiarities which, though less within the range of the observation of men in the habit of recording what they are, are not less real than those of the man of physic or of the law. The barber is as unlike the weaver, and the tailor as unlike both, as the farmer is unlike the soldier, or as either the farmer or soldier is unlike the merchant, lawyer, or minister. It is only on the same sort of principle that all men, when from the top of a lofty tower, whether they be tall or not, seem of the same stature, that these differences escape notice of men in the higher walks.

Between the workmen that pass sedentary lives within doors, such as weavers and tailors, and those who labor in the open air, such as masons and ploughmen, there exists a grand generic difference. Sedentary mechanics are usually less contented than laborious ones; and as they almost always work in parties, and as their comparatively light, though often long and wearily-plied employments, do not so much strain their respiratory organs but that they can keep up an interchange of idea when at their toils, they are generally much better able to state their grievances, and much more fluent in speculating on their causes. They develop more freely than the laborious out-of-door workers of the country, and present, as a class, a more intelligent aspect. On the other hand, when the open-air worker does so overcome his difficulties as to get fairly developed, he is usually of a fresher or more vigorous type than the sedentary one.

The specific peculiarities induced by particular professions are not less marked than the generic ones. How different, for instance, the character of a sedentary tailor, as such, from that of the equally sedentary barber! Two imperfectly taught young lads, of not more than the average intellect, are apprenticed, the one to the hair-dresser, the other to the fashionable clothes-maker of a large village... The barber has to entertain his familiar round of customers, when operating upon their heads and beards. He must have no controversies with them; that might be disagreeable, and might affect his command of the scissors or razors; but he is expected to communicate to them all he knows of the gossip of the place; and as each customer supplies him with a little, he of course comes to know more than anybody else... As his light and easy work lays no stress on his respiration, in course of time he learns to be a fast and fluent talker, with a great appetite for news, but little given to dispute. He acquires, too, if his round of customers be good, a courteous manner; and if they be in large proportion Conservatives, he becomes, in all probability, a Conservative too... The young tailor goes through an entirely different process. He learns to regard dress as the most important of all earthly things; becomes knowing in cuts and fashions; is taught to appreciate, in a way no other individual can, the aspect of a button, or the pattern of a vest; and as his work is cleanly, and does not soil his clothes, and as he can get them more cheaply, and more perfectly in the fashion, than other mechanics, the chances are ten to one that he turns out a beau. He becomes great in that which he regards as of all things greatest, dress... A young tailor may be known by the cut of his coat and the merits of his pantaloons, among

all other workmen ; and as even fine clothes are not enough of themselves, it is necessary that he should also have fine manners ; and not having such advantages of seeing polite society as his neighbour the barber, his gentlemanly manners are always less fine than grotesque ... A village smith hears well-nigh as much gossip as a village barber ; but he develops into an entirely different sort of man. He is not bound to please his customers by his talk ; nor does his profession leave his breath free enough to talk fluently or much ; and so he listens in grim and swarthy independence ; strikes his iron while it is hot ; and when, after thrusting it into the fire, he bends himself to the bellows, he drops, in rude phrase, a brief judicial remark, and again falls sturdily to work ... Again, the shoemaker may be deemed, in the merely mechanical character of his profession, near of kin to the tailor. But such is not the case. He has to work amid paste, wax, oil, and blacking, and contracts a smell of leather. He cannot keep himself particularly clean ; and although a nicely finished shoe be all well enough in its way, there is not much about it on which conceit can build. No man can set up as a beau on the strength of a prettily-shaped shoe ; and so a beau the shoemaker is not, but, on the contrary, a careless, manly fellow, who, when not overmuch devoted to Saint Monday, gains usually, in his course through life, a considerable amount of sense.

The professional character of the mason varies a good deal in the several provinces, according to the various circumstances in which he is placed. He is in general a blunt, manly, taciturn fellow, who, without much of the Radical or Chartist about him, especially if wages be good, and employment abundant, rarely touches his hat to a gentleman ... His employment is less purely mechanical than many others : he is not like a man ceaselessly engaged in pointing needles or fashioning pin-heads. On the contrary, every stone he lays or hews demands the exercise of a certain amount of judgment for itself ; and so he cannot wholly suffer his mind to fall asleep over his work. When engaged, too, in erecting some fine building, he always feels a degree of interest in marking the effect of the design developing itself peacemeal, and growing up under his hands ; and so he rarely wearies of what he is doing ... Further, his profession has this advantage, that it educates his sense of sight. Accustomed to ascertain the straightness of lines at a glance, and to cast his eye along plane walls, or the mouldings of entablatures or architraves, in order to determine the rectitude of the masonry, he acquires a sort of mathematical precision in determining the true bearings and position

of objects, and is usually found, when admitted into a rifle club, to equal, without previous practice, its second-rate shots. He only falls short of its first-rate ones, because, uninitiated by the experience of his profession in the mystery of the parabolic curve, he fails, in taking aim, to make the proper allowance for it ... The mason is almost always a silent man: the strain on his respiration is too great, when he is actively employed, to leave the necessary freedom to the organs of speech; and so at least the provincial builder or stone-cutter rarely or never becomes a democratic orator. I have met with exceptional cases in the larger towns; but they were the result of individual peculiarities, developed in clubs and taverns, and were not professional.

Hugh Miller.

THE SWINE-GENERAL OF NASSAU.

EVERY morning at half-past five o'clock, I hear, as I am dressing, the sudden blast of an immense long wooden horn, from which always proceed the same four notes. I have got quite accustomed to this wild alarm, and the vibration has scarcely subsided, and is still ringing among the distant hills, when, leisurely proceeding from almost every door in the street, behold a pig ... Some from their jaded, careworn, dragged appearance are evidently leaving behind them a numerous litter; others are great, tall, monastic, melancholy-looking creatures which seem to have no other object left in this wretched world than to become bacon; while others are thin, tiny, light hearted, brisk, petulant piglings, with the world and all its loves and sorrows before them. Of their own accord these creatures proceed down the street to join the herdsman, who occasionally continues to repeat the sorrowful blast from his horn.

Gregarious, or naturally fond of society, with one curl of their tails, and with their noses almost touching the ground, the pigs trot on, grunting to themselves and to their comrades, halting only whenever they come to anything they can manage to swallow.

I have observed that the old ones pass all the carcasses, which, trailing on the ground, are hanging before the butchers' shops, as if they had given their word of honor not to touch them; the middle-aged ones wistfully eye this meat, yet jog on also, while the piglings, who (so like mankind) have more appetite than judgment, can rarely resist taking a nibble; yet, no sooner does the dead calf begin again to move, than, from

the window immediately above, out pops the head of a butcher, who, drinking his coffee whip in hand, inflicts a prompt punishment sounding quite equal to the offence.

As I have stated, the pigs generally speaking, proceed of their own accord ; but shortly after they have passed, there comes down our street a little bareheaded, barefooted stunted dab of a child about eleven years old. This little goblin page, the whipper-in, attendant, or *aidé-de-camp*, of the old pig-driver, facetiously called the "swine-general," is a being no one looks at, and who looks at nobody. Whether the hotels are full of strangers or empty, whether the promenades are occupied by princes or peasants, whether the weather be good or bad, hot, or rainy, she apparently never stops to consider : upon these insignificant subjects it is evident she never for a moment has reflected... But such a pair of eyes have, perhaps, seldom beamed from human sockets ! The little intelligent urchin knows every house from which a pig ought to have proceeded ; she can tell by the door being open or shut and even by the foot marks whether the creature has joined the herd, or whether having overslept itself, it is still snoring in its sty : a single glance determines whether she shall pass a yard or enter it ; and if a pig from indolence or greediness be loitering on the road, the sting of the wasp cannot be sharper or more spiteful than the cut she gives it. As soon as, finishing with one street, she joins her general in the main road, the herd slowly proceed down the town.

Besides the little girl who brings up the rear, the herd is preceded by a boy of about fourteen, whose duty it is not to let the foremost, the more enterprising, or, in other words, the most ravenous pigs advance too fast.

In the middle of the drove, surrounded like a shepherd by his flock, slowly stalks the "SWINE-GENERAL," a wan, spectre-looking old man, worn out, or nearly so, by the arduous and every-day duty of conducting, against their wills, a gang of exactly the most obstinate animals in creation. A single glance at his jaundiced, ill-natured countenance is sufficient to satisfy one that his temper has been soured by the vexatious contrarieties, and "untoward events" it has met with ... In his left hand he holds a staff to help himself onwards, while round his right shoulder hangs one of the most terrific whips that could possibly be constructed. At the end of a short handle turning upon a swivel, there is a lash about nine feet long, formed like the vertebrae of a snake, each joint being an iron ring, which, decreasing in size, is closely connected with its neighbour by a band of hard greasy leather... The pliability, the weight, and the force of this iron whip render it an

argument which the obstinacy even of the pig is unable to resist; yet, as the old man proceeds down the town, he endeavors to speak kindly to the herd, and as the bulk of them precede him, jostling each other, grumbling and grunting on their way, he occasionally exclaims in a low, hollow tone of encouragement, "Nina, Anina" ... If any little savory morsel causes a contention, stoppage, or constipation on the march, the old fellow slowly unwinds his dreadful whip, and by merely whirling it round his head, like reading the Riot Act, he generally succeeds in dispersing the crowd; but if they neglect this solemn warning, if their stomachs prove stronger than their judgment, and if the group of greedy pigs still continue to stagnate, "ARRIFF!" the old fellow exclaims, and rushing forward, the lash whirling round his head, he inflicts with strength which no one could have fancied he possessed, a smack that seems absolutely to electrify the leader ... As lightning shoots across the heavens, I observe the culprit fly forwards, and for many yards continuing to sidle towards the left; it is quite evident that the thorn is still smarting in his side; and no wonder, poor fellow; for the blow he received would almost have cut a piece out of a door.

As soon as the herd get out of the town, they begin gradually to ascend the rocky barren mountain which appears towering above them, and then the labors of the Swine-general and his staff become greater than ever: for as the animals from their solid column begin to extend or deploy themselves into line, it is necessary constantly to ascend and descend the slippery hill, in order to outflank them; "ARRIFF!" vociferates the old man striding after one of his rebellious subjects; "ARRIFF!" in a shrill tone of voice is re-echoed by the lad as he runs after another. However, in due time the drove reaches the, courteously so called, pasture-ground which is devoted to this day's exercise: the whole mountain being thus consumed by patches in regular succession.

Sir F. Head.

A STONE.

HERE is a common pebble, a flint; such as a little boy kicks before him as he goes, by way of making haste with a message, and saving his new shoes.

"A stone!" cries a reader, "a flint! the very symbol of a miser! What can be got out of that?"

The question is well put; but a little reflection on the part of our interrogator would soon rescue the poor stone from the

comparison. Strike him at any rate, and you will get something out of him : warm his heart, and out come the genial sparks that shall gladden your hearth, and put hot dishes on your table. This is not miser's work ... A French poet has described the process, well known to the maid-servant, when she stoops, with flashing face, over the tinder-box on a cold morning, and rejoices to see the first laugh of the fire :

The prudent sexton, studious to reveal
Dark holes, here takes from out his pouch a steel ;
Then strikes upon a flint. In many a spark
Forth leaps the sprightly fire against the dark ;
The tinder feels the little lightning hit,
The match provokes it, and a candle's lit.

We shall not stop to pursue this fiery point into all its consequences, to show what a world of beauty or of formidable power is contained in that single property of our friend Flint, what fires, what lights, what conflagrations, what myriads of *clicks* of triggers ; awful sounds before battle, when instead of letting his flint do its proper good-natured work of cooking his supper, and warming his wife and himself over their cottage-fire, the poor fellow is made to kill and be killed by other poor fellows, whose brains are strewed about the place for want of knowing better.

But to return to the natural, quiet condition of our friend, and what he can do for us in a peaceful way, and so as to please meditation ; what think you of him as the musician of the brooks ? as the unpretending player on those watery pipes and flageolets, during the hot noon, or the silence of the night ? Without the pebble the brook would want its prettiest murmur.

A noise as of a hidden brook
In the leafy month of June,
That to the sleeping woods all night
Singeth a quiet tune.

Quiet as a stone ! Nothing certainly can be more quiet than that. Not a syllable or a sigh will a stone utter, though you watch and bear him company for a whole week on the most desolate moor in Cumberland. Thus silent, thus unmoved, thus insensible to whatever circumstances might be taking place, or spectators might think of him, was the soul-stunned old patriarch of the gods. We may picture to ourselves a large, or a small stone, as we please, Stone-henge or a pebble. The simplicity and grandeur of truth do not care which. The silence is the thing ; its intensity, its unalterableness.

Our friend pebble is here in grand company, and you may think him, though we hope not, unduly bettered by it. But see what Shakspeare will do for him in his hardest shape and in no finer company than a peasant's: —

Weariness

Can snore upon the flint, when restive sloth
Finds the down pillow hard.

Sleeping on hard stone would have been words strong enough for a common poet; or perhaps he would have said, "resting," or "profoundly reposing;" or that he could have made his "bed of the bare floor;" and the last saying would not have been the worst; but Shakspeare must have the very strongest words and really profoundest expressions, and he finds them in the homeliest and most primitive. He does not mince the matter, but goes to the root of both sleep and stone: can *snore* upon the *flint*. We see the fellow hard at it, bent upon it; deeply drinking of the forgetful draught.

Hear, too, what a great critic of art has to say of a stone. "There are no natural objects out of which more can be learned than out of stones. They seem to have been created especially to reward a patient observer. Nearly all other objects in nature can be seen, to some extent, without patience, and are pleasant even in being half seen. Trees, clouds, and rivers are enjoyable even by the careless; but the stone under his foot has for carelessness nothing in it but stumbling; no pleasure is languidly to be had out of it, nor food, nor good of any kind; nothing but symbolism of the hard heart and the unfatherly gift. And yet, do but give it some reverence and watchfulness, and there is bread of thought in it, more than in any other lowly feature of all the landscape.

"For a stone, when it is examined, will be found a mountain in miniature. The fineness of Nature's work is so great, that, into a single block, a foot or two in diameter, she can compress as many changes of form and structure, on a small scale, as she needs for her mountains on a large one; and, taking moss for forests, and grains of crystal for crags, the surface of a stone, in by far the plurality of instances, is more interesting than the surface of an ordinary hill; more fantastic in form, and incomparably richer in color."*

But setting aside the wonders of the poets and the artists, Pebble, in his own person, and by his own family alliances, includes wonders far beyond the most wonderful things they have imagined ... Wrongly is flint compared with the miser.

* Ruskin.

You cannot, to be sure, skin him, but you can melt him ; aye, make him absolutely flow into a liquid ; flow too for use and beauty ; and become light unto your eyes, goblets to your table, and a mirror to your beloved. Bring two friends of his about him, called Potash and Soda, and Flint runs into melting tenderness, and is no longer Flint ; he is Glass. You look through him ; you drink out of him ; he furnishes you beautiful and transparent shutters against the rain and cold ; you shave by him ; protect pictures with him, and watches, and books ; are assisted by him in a thousand curious philosophies ; are helped over the sea by him ; and he makes your cathedral windows divine ; and enables your mistress to wear your portrait in her bosom.

But we must hasten to close our article, and bring his most precious riches down in a shower surpassing the rainbow. *Stone* is the humble relation, nay, the stock and parent of *Precious Stone* ! Ruby, Emerald, and Sapphire are of his family ! of the family of the Flints ; and Flint is more in them than anything else ! That the habitations and secret bosoms of the precious *metals* are stone, is also true ; but it is little compared with this... Precious stone, for the most part, is stone itself ; is flint ; with some wonderful circumstance of addition, nobody knows what ; but without the flint the preciousness would not be. Here is wealth and honor for the poor Pebble !

“Sparkling diamonds” are not properly in our list of pebbles ; for diamond, the most brilliant mystery of all, is *charcoal* !

What now remains for *stone*, thus filling the coffers of wealth, glorifying the crowns of sultans, and adding beams to beauty itself ? One thing greater than all. The oldest and stoniest of stone is granite, and granite, as far as we know, is the chief material of the earth itself, the bones of the world, the substance of our *star*.

Honored therefore be thou, thou small pebble lying in the lane ; and whenever any one looks at thee, may he think of the beautiful and noble world he lives in, and all of which it is capable !

Leigh Hunt.

A ROOKERY.

EVERYBODY knows the rook ; the dark, the noisy, and sometimes the nest-plundering, or, in the early fields, the contribution-levying rook ; but still, notwithstanding the cheerful, the orderly, the *industrious*, the *discreet*, the beneficent rook. There

in the aged and stately trees, he builds his wicker castle, chants his rude and monotonous cry the while, dwells among his brethren and his kindred, and looks down on the lord of the manor with as much self-possession as if it were he who suffered the wingless rustic to toil with heavy steps through the sticks that fall from the nest of his superior.

Nor does he loiter away his time in the manorial bower. He looks after the estate, and gives a very broad, and at the same time, pointed hint to others, if they would take it.

When the frost is severe, and the snow lies thick, off he flies to the sea-beach or the river-side, and inspects the embankments, weirs and dams, to notice if the teredo has bored into the posts, or any other injury has been done by small enemies, that can be productive of damage when the thaw and the flood come. Or he comes nearer the house, and examines the compost, in order to see that when you apply it to enrich the fields, you do not at the same time scatter insects which will eat up your young plants, and deprive you of your crop.

When the thaw comes, he hurries to the meadows, and examines the debris which has been cast there by the swollen stream; and if he finds in it the germ of any noxious thing, he pulls it out; and the blessing of the hill comes upon the valley, pure, wholesome, and without offensive addition. Next he goes to the Autumn-sown wheat, and, by a curious instinct, knowing those plants that are sickly, he delves down, and extracts the larva of the cockchaffer, or whatever earth caterpillar it may be, which is only waiting for a few gleams of a warmer sun, in order to render your labor abortive, and compel you to plough and sow that field anew.

Again, he is over the pasture, and every stool of grass and plant of clover undergoes a like patient and well directed scrutiny; and, by the time that "the day is done," he returns to his perch, cawing, to inform you that the labor is accomplished and the laborer paid, in less time than you would take in considering how to do either the one or the other.

The great additional labor of the rooks is the preparing of their nests, and the rearing of those broods which are to continue the society, and watch over the state of the fields, after age or casualty shall have given their own feathers to the winds, and their flesh to the raven; and their early rising, their constant labor, and the order and police which they maintain, are all very curious... Their time of commencement is the first of March, a little earlier or a little later, according to the season, and, as the building of the nest, and the instinct

by means of which that nest is to be stocked, come to maturity together ; so, if the lapwing storm, which, raging on the shores and in the low country, helps to drive these beautiful birds to the moors, be long and protracted, the nest-building is suspended till it blows over, and the rook contents himself in the interim with watching the safety of those sticks that are already placed.

But if the season goes cheerily on, and there is no interruption, the cawing and the bustle begin at the greyest dawn ; and that man is most industrious that can get to his work before the rook. "Ask the beasts, and they shall tell ; the birds, and they shall instruct." It is good at that season, to be near a rookery. There is no lullaby in their cawing : you cannot sleep ; and they will not allow you to be dozing and "losing thought in bed." Rise you must, or suffer for it. But they do not annoy you at night. "Early to bed and early to rise," is the rook's maxim, and if you follow them as far as that, the rest will follow of necessary consequence.

But their admonition does not stop there. The farmer's busy time is their busy time ; they feel that he is as necessary to their present profit as they are to his future ; or they act as if they so felt, which, in effect, comes to the same thing. If he will not bring out his teams, turn the soil, and expose the worms and the grubs ; they caw over his fields, and make the same sort of lamentation that a hungry man does when he knows that there is meat in the house, but the careless servant has lost the key of the larder.

But if the teams are all a-field betimes, slicing the sward or the stubble, and turning up the fresh and fragrant earth to be mellowed by the action of the sun, there is not a complaining note among all the fieldward rooks. Gallantly they strut, and incessantly they pick up the larvæ and the worms, so that the returning plough cannot bury and so preserve in the soil a single destructive thing. And you would think that the memory of gratitude was strong in them, and that they know upon whose territory they depend, when their own was locked up by the snow and frost... At one time, the rook resorted to the shores of the sea, and fed on the pastures of the gull ; and now that it is his time for superabundance, the gull comes for a share, and the rook, instead of offering any resistance, mixes with the stranger on the most friendly terms. Even the pigeon comes from the cote or the wood, and the very poultry and ducks come from the farm-yard, and mingle in peace with the wild tribes : such charms has the timely laboring of the ground.

Mudie.

THE DYING SOLDIER.

I ADMIRE a kind heart as much as others do a clear head. During the late war, an officer on sick-leave was permitted to retire from his duties in the field, and return to Bergheim, where he would be sure to have the best medical advice. Fatigued, and almost exhausted by a long day's journey, he had just strength enough left to call at the Quarter Master's, and there received his *billet* for the night... On presenting himself to the master of the house indicated, he was coolly informed that every room was engaged; that there was some mistake in the billet, which must be rectified, and that he must apply to the officer for that purpose. This was more than he was able to attempt. He felt as if ready to sink on the floor, and supported himself with difficulty on his trusty sabre, with which, as he had good reason to believe, he had lately done the state some service... He inquired again: "No sir," repeated the host, "I assure you there is not even a chair or cupboard in the house at my disposal. Nevertheless," he added, "as the office is at some distance, look around and satisfy yourself as to the fact." The officer, to whom a small space on the floor would have been as acceptable as a couch of down, looked anxiously round him, but all in vain... He then ascended to the next floor, but every corner was pre-occupied. He was overcome for a moment; and grasping the handle of an open casement, looked out almost unconsciously into the street. Revived by the fresh air, he stood listening to the "wordy babel" that murmured around and beneath him: some smoking, others drinking, swearing, or singing... In the midst of "confusion worse confounded," a sweet sound, as if from paradise, struck his ear. He listened! It was the notes of a violin, and the air that of Körner's "Battle Song." The officer felt a momentary strength, the strength of inspiration; and determined to make a last effort to reach the apartment overhead, whence the sound continued to proceed, as if to bid him welcome... In a few minutes more he stood in the door of the little attic, and by looks, rather than words, solicited hospitality. The musician laid his violin hastily aside, stretched forth his hand, and bade him welcome. His wife, a Saxon blonde, young and handsome, with three children playing by the fireside, hastily placed a chair for the wounded soldier, and with a soft smile begged him to be seated. "Ah!" said she to herself, "he is so like my dear, dear brother who fell at Jena." She then turned away to hide her tears in the bosom of the youngest child, who on the appearance of the stranger, *flew to nestle in her arms.*

In a few minutes the soldier was enabled briefly to relate his history ; his object in coming ; and the embarrassment that attended him on his arrival. "Never mind," said this worthy couple, both speaking in the same breath, and both eagerly anticipating his wishes... "Never mind, Sir, you are a soldier ; you can put up with very ordinary accommodation, and we are but too happy in offering you a share of our scanty apartment. Here is your couch ; you will deign to partake of our frugal supper, and after a few hours repose you will rise refreshed, and be able to find lodgings better suited to your condition, and the delicate state of your health. In the meantime we bid you a hearty welcome !"

The stranger made no reply, save what might easily be read in the agitated expression of his countenance, and a deep sigh that attested his gratitude. They pressed him to take a little wine, the common wine of the Neckar, and after swallowing a mouthful, he laid himself quietly down on the hard couch, and with his cloak thrown loosely over him, fell immediately into what they thought a sound sleep... Long before morning, however, he started up, and calling his host to him, who had sat up watching him, said, in a firm but low voice, "I perceive that my end approaches. Take this purse ; it contains five hundred crowns—a soldier's hard, honest earnings during the late campaign ; watch me a little longer. When I die lay me decently in the earth, and may the blessing of a dying soldier rest upon you and yours."

The poor musician was struck dumb. "Not for the world," said he. "You shall live—live to fight the battles of your country. I will send instantly—no, I will run—to fetch Dr. Herrmann ;" and so saying, he disappeared, and in a few minutes the doctor had the soldier's hand in his. He looked troubled as he sat counting the measured beat of his pulse. "Yes," said the soldier feebly, "my hours are numbered. I have but one request to make ; call in a notary, and let me close my account with this world."... The doctor bowed assent, and when the notary appeared, "I give," said the dying man, "all I possess in the world to this poor, but humane and hospitable family. I was last night sick, an outcast from common sympathy, and here they took me in, dressed my wounds, and cheered me with the words and looks of affection."... He could not say more, than, pointing to the money, "Make it theirs !" The poor musician made many excuses :—"Had the worthy stranger," he inquired, "no relation of his own ?" The dying man only answered by a quick motion of the hand, as if praying them to use dispatch. The notary proceeded—the document was finished, sealed, and signed by the patient,

with the physician's name attached as witness. He was now calm, his account, as he expressed it, was closed. "No plunder, no plunder there," said he, pointing to the purse. "It was gained with honor, and to an honorable end I bequeath it."

Then after a little pause, "I leave no family; I had but one friend; we fought together at Jena; he fell crowned with glory. Yes! Frederick Müller—" But a woman's shriek cut short the sentence. "My brother! my brother!—Frederick Müller was my brother! You are Berthold von—" but here, while struggling to utter the name, she fainted away.

The dying man looked wildly around him; then lifting his eyes to heaven, and muttering the blessed hope now kindling within him, he sighed "Blessed be God!" The next minute the pulse of life stood still, and his account with this world was closed.



THE GRAVE.

THE sorrow for the dead is the only sorrow from which we refuse to be divorced. Every other wound we seek to heal; every other affliction, to forget; but this wound, we consider it a duty to keep open. This affliction we cherish, and brood over in solitude. Where is the mother, who would willingly forget the infant that has perished like a blossom from her arms, though every recollection is a pang? Where is the child, that would willingly forget a tender parent, though to remember it be but to lament? Who, even in the hour of agony, would forget the friend over whom he mourns?

No, the love which survives the tomb is one of the noblest attributes of the soul. If it has its woes, it has likewise its delights; and when the overwhelming burst of grief is calmed into the gentle tear of recollection; when the sudden anguish, and the convulsive agony over the present ruins of all that we most loved is softened away into pensive meditation on all that it was in the days of its loveliness, who would root out such a sorrow from the heart? Though it may, sometimes, throw a passing cloud over the bright hour of gaiety, or spread a deeper sadness over the hour of gloom, yet who would exchange it, even for the song of pleasure, or the burst of revelry? No, there is a voice from the tomb sweeter than song. There is a remembrance of the dead, to which we turn, even from the charms of the living.

Oh, the grave! the grave! It buries every error, covers

every defect, extinguishes every resentment! From its peaceful bosom spring none but fond regrets and tender recollections. Who can look down upon the grave, even of an enemy, and not feel a compunctionous throb, that he should have warred with the poor handful of earth that lies mouldering before him? But the grave of those we loved, what a place for meditation! There it is, that we call up, in long review, the whole history of virtue and gentleness, and the thousand endearments lavished upon us, almost unheeded, in the daily intercourse of intimacy; there it is that we dwell upon the tenderness, the solemn, awful tenderness of the parting scene; the bed of death, with all its stifled griefs, its noiseless attendance, its mute, watchful assiduities! the last testimonies of expiring love! the feeble, fluttering, thrilling,—oh, how thrilling!—pressure of the hand! the last fond look of the glazing eye turning upon us, even from the threshold of existence! the faint, faltering accents, struggling in death to give one more assurance of affection!

Ay, go to the grave of buried love, and meditate! There settle the account with thy conscience, for every past benefit unrequited; every past endearment unregarded, of that departed being, who can never—never—never return to be soothed by thy contrition! If thou art a child, and hast ever added a sorrow to the soul, or a furrow to the silvered brow of an affectionate parent; if thou art a husband, and hast ever caused the fond bosom that ventured its whole happiness in thy arms, to doubt one moment of thy kindness or thy truth; if thou art a friend, and hast ever wronged, in thought, or word, or deed, the spirit that generously confided in thee; if thou hast given one unmerited pang to that true heart, which now lies cold and still beneath thy feet; then be sure, that every unkind look, every ungracious word, every ungentle action, will come thronging back upon thy memory, and knocking dolefully at thy soul; then be sure, that thou wilt lie down sorrowing and repentant on the grave, and utter the unheard groan, and pour the unavailing tear; more deep, more bitter, because unheard and unavailing.

Then weave thy chaplet of flowers, and strew the beauties of nature about the grave; console thy broken spirit, if thou canst, with these tender, yet futile tributes of regret; but take warning, by the bitterness of this, thy contrite affliction over the dead, and henceforth, be more faithful and affectionate in the discharge of thy duties to the living. *W. Irving.*

AN ENGLISH FARM.

It was a beautiful great green pasture-field which we drove into, with a score of fat sleek cows feeding in it, or lying about chewing the cud ; and Joe was very proud of them, and walked the chestnut along slowly while he pointed out his favorites to me, especially one short-horn, whose back he said was like a kitchen table, though why she should be any the handsomer for that I can't say ... The house was an old brick building, with tall chimneys and latticed windows ; in front of it was a nice little flower-garden, with a tall, clipped holly hedge running round it, so thick that you couldn't see through ; and beyond that a kitchen-garden and an orchard. Outside the enclosure stood four such elms as I never saw before, and a walnut tree nearly as big as they, with queer great branches drooping close on the ground, on which some turkeys were sitting ... There was only a little wicket gate in the holly hedge, and a gravel foot-path up to the front-door, so we drove into the farmyard at the back ; and while Joe and his man took care of the chestnut, I had time to look about and think what a snug berth Joe seemed to have fallen upon.

The yard must be sixty yards across, and was full of straw, where the pigs were lying with nothing but their snouts out ; lots of poultry were scratching and pecking about before the barn-doors, and pigeons were fluttering down amongst them, and then up again to the tops of the barns and stables, which ran all round the yard. The rick-yard full of long stacks of hay and round stacks of corn was beyond. A terrier and spaniel were sleeping in sunny corners, and a greyhound was stalking about and looking at the pigs ; and everything looked sleepy and happy, and as if life went easily along at Elm Close Farm.

Presently Joe came out of the stable, carrying his whip, and took me into the house, calling into the kitchen as we passed to send in dinner directly. There was nobody in the parlor at first, but I saw that the table was laid for three, and, before I could look round at the prints and samplers on the wall, Joe's mother and the dinner came in. She was a good-looking old lady, dressed in black, with a very white lawn cap and collar, and was very kind and civil, but a little deaf ... Joe bustled about, and got out I don't know how many bottles of home-made wine, clary, and raisin, and ginger, all of which he made me drink, besides beer, for he said that no one in the Vale had such receipts for wine as his mother. And what with the dairy-fed pork, and black puddings, and a chicken almost

as big as a turkey, and the cheese cakes and tarts afterwards, and the hearty welcome and good example which Joe gave me, I don't remember when I have made so good a dinner.

The old lady went off directly after dinner, and I could see that Joe wanted to go, and see after his men; so I told him not to mind me, for I should enjoy loitering about the place better than anything... And so I did; first I went into the flower-garden, and watched and listened to the bees working away so busy in the mignonette, and the swallows darting up into their nests under the eaves, and then diving out again and skimming away over the green pasture; and then round the kitchen-garden, and into the orchard, where the trees were all loaded with apples and pears, and so out into a stubble field at the back, where there was a lot of young pigs feeding and playing queer tricks; and back through the farm-yard and into the great pasture, where I lay down on the grass, under one of the elms, and watched a flock of little shiny starlings, hopping upon the backs of some old south-down wethers, who were feeding near me, and flying backwards and forwards into the old elms and walnut trees, talking to one another all the while.

And so the time wore on, till a stout lass in a blue cotton print came out, and called the cows in to milking; and they all went trooping slowly by into the farm-yard, some of them just stopping to stare at me with their mild eyes, and smelling so sweet, that I hadn't the heart to go on smoking, and let my pipe out... And after a bit, I followed into the line of sheds where they were being milked by the lass and a man, who balanced himself on two legs of the milking-stool and drove his head into the cow's side; and I thought I had never heard a sweeter sound than the tinkling sound which the milk made in the bright tin pails.

I soon got into a talk with the lass, who was very pleasant and free spoken, and presently when her pail was full, I lifted it out for her, all frothing up, and looking not a bit like our London sky-blue; and I told her I didn't think I had ever tasted real new milk, so she got me a long straw, and while she went on milking, I went down on my knees, and began to suck away through the straw... But I had hardly begun, when I heard a noise behind, and looking round, there stood Joe, laughing all over; and by his side a young woman in a broad straw hat, and a grey jacket; and though, for good manners, she didn't laugh out like Joe, I could see it was all she could do to keep from going off too.

Why was I ashamed of being caught? I don't know, but I was ashamed; and so I stuck there on my knees on the deep

straw, with the pail before me, looking at them; the blood rushed up to my head and made my ears sing, so that I couldn't hear a word that Joe said. But I could see he did say something, and then went off into another great roar of laughter; and the lass and the man left off milking, and began laughing too, till I thought they would have dropped off their stools.

Then the young woman who was with Joe said something to him, and I thought I heard the words "what a shame!" and "your oldest friend;" and then she caught up a straw, and came and knelt on the opposite side of the milk-pail, and began herself to suck away without looking at me... In another minute Joe plumped down too, clapping me on the back. "I say," said he, "start fair! Here, make room for me; you and Lucy ain't going to have it all to yourselves;" and he began sucking away too; and then I recovered myself, and we all went on for a minute, when Joe took his straw out of his mouth and said, "This is my sister Lucy, Dick; there, shake hands over the pail, and then let's go in to tea."

So she looked up and blushed, and gave me her hand, her merry blue eyes twinkling with mirth, though she tried to keep grave. But I was all right now, and went off myself, and Joe followed, and then she with the clearest, brightest laugh you ever heard, and then the man and the lass; and by the time we had done I felt as if I had known them all for years.

Scouring of the White Horse.



ESSENCE OF THE PICTURESQUE.

THE essence of picturesque character may be defined as a sublimity not inherent in the nature of the thing, but caused by something external to it; as the ruggedness of a cottage roof possesses something of a mountain aspect, not belonging to the cottage as such... This sublimity may be either in mere external ruggedness, and other visible character, or it may lie deeper, in an expression of sorrow and old age, attributes which are both sublime; not a dominant expression, but one mingled with such familiar and common characters as prevent the object from becoming perfectly pathetic in its sorrow, or perfectly venerable in its age.

For instance, I cannot find words to express the intense pleasure I have always in first finding myself, after some prolonged stay in England, at the foot of the old tower of Calais church. The large neglect, the noble unsightliness of it; the record of its years written so visibly, yet without sign of weakness or

decay; its stern wasteness and gloom, eaten away by the channel winds, and overgrown with the bitter sea grasses; its slates and tiles all shaken and rent, and yet not falling; its desert of brickwork full of bolts, and holes, and ugly fissures, and yet strong like a bare brown rock; its carelessness of what any one thinks or feels about it, putting forth no claim, having no beauty nor desirableness, pride, nor grace; yet neither asking for pity; not, as ruins are, useless and piteous, feebly or fondly garrulous of better days; but useful still, going through its own daily work, as some old fisherman beaten grey by storm, yet drawing his daily nets. So it stands, with no complaint about its past youth, in blanched and meagre massiveness and serviceableness, gathering human souls together underneath it; the sounds of its bells for prayer still rolling through its rents; and the grey peak of it seen far across the sea, principal of the three that rise above the waste of surfy sand and hillocked shore,—the lighthouse for life, and the belfry for labor, and this for patience and praise.

I cannot tell the half of the strange pleasures and thought that come about me at the sight of that old tower; for, in some sort it is the epitome of all that makes the continent of Europe interesting, as opposed to new countries; and, above all, it completely expresses that agedness in the midst of active life which binds the old and the new into harmony ... We, in England, have our new street, our new inn, our green shaven lawn, and our piece of ruin emergent from it, a mere *specimen* of the middle ages put on a bit of velvet carpet to be shown, which, but for its size, might as well be on a museum shelf at once, under cover ... But, on the continent, the links are unbroken between the past and present, and in such use as they can serve for, the grey-headed wrecks are suffered to stay with men; while, in unbroken line, the generations of spared buildings are seen succeeding each in its place ... And thus in its largeness, in its permitted evidence of slow decline, in its poverty, in its absence of all pretence, of all show and care for outside aspect, the Calais tower has an infinite of symbolism in it, all the more striking because usually seen in contrast with English scenes expressive of feelings the exact reverse of these. *Ruskin.*

VOYAGE ACROSS THE ATLANTIC.

To an American visiting Europe, the long voyage he has to make is an excellent preparative. The temporary absence of worldly scenes and employments produces a state of mind

peculiarly fitted to receive new and vivid impressions. The vast space of waters that separates the hemispheres is like a blank page in existence. There is no gradual transition by which, as in Europe, the features and population of one country blend almost imperceptibly with those of another. From the moment you lose sight of the land you have left, all is vacancy, until you step on the opposite shore, and are launched, at once, into the bustle and novelties of another world.

In travelling by land, there is a continuity of scene, and a connection of persons and incidents, that carry on the story of life, and lessen the effect of absence and separation. We drag, it is true, "a lengthened chain," at each remove of our pilgrimage; but the chain is unbroken. We can trace it back, link by link; and we feel, that the last of them still grapples us to home. But a wide sea-voyage severs us at once. It makes us conscious of being cast loose from the secure anchorage of settled life, and sent adrift upon a doubtful world. It interposes a gulf, not merely imaginary, but real, between us and our homes; a gulf subject to tempests, and fear, and uncertainty, that makes distance palpable, and return precarious.

Such at least was the case with myself. As I saw the last blue line of my native land fade away like a cloud in the horizon, it seemed as if I had closed one volume of the world and its concerns, and I had time for meditation before I opened another. That land, too, now vanishing from my view, which contained all that was most dear to me in life, what vicissitudes might occur in it, what changes might take place in me before I should visit it again! Who can tell, when he sets forth to wander, whether he may be driven by the uncertain current of existence, or when he may return, or whether it may be ever his lot to review the scenes of his childhood?

I said, that at sea all is vacancy. I should correct the expression. To one given to day-dreaming, and fond of losing himself in reveries, a sea-voyage is full of subjects for meditation; but then, they are the wonders of the deep and of the air, and rather tend to abstract the mind from worldly themes. I delighted to loll over the quarter-railing, or to climb to the main-top, of a calm day, and muse for hours together, on the tranquil bosom of a summer's sea; to gaze upon the piles of golden clouds, just peering above the horizon, fancy them some fairy realms, and people them with a creation of my own; to watch the gentle undulating billows, rolling their silver volumes, as if to die away on those happy shores.

There was a delicious sensation of mingled security and awe, with which I looked down from my giddy height, at the mon-

sters of the deep at their uncouth gambols ; shoals of porpoises tumbling about the bow of the ship ; the grampus slowly heaving his huge form above the surface, or the ravenous shark, darting like a spectre, through the blue waters. My imagination would conjure up all that I had heard or read of the watery world beneath me ; of the finny herds that roam its fathomless valleys ; of the shapeless monsters that lurk among the very foundations of the earth, and of those wild phantasms that swell the tales of fishermen and sailors.

Sometimes, a distant sail, gliding along the edge of the ocean, would be another theme of idle speculation. How interesting this fragment of a world, hastening to rejoin the great mass of existence ! What a glorious monument of human invention, that has thus triumphed over wind and wave ; has brought the ends of the world into communion ; has established an interchange of blessings, pouring into the sterile regions of the north, all the luxuries of the south ; has diffused the light of knowledge, and the charities of cultivated life ; and has thus bound together those scattered portions of the human race, between which nature seemed to have thrown an insurmountable barrier.

We one day descried some shapeless object drifting at a distance. At sea, everything that breaks the monotony of the surrounding expanse, attracts attention. It proved to be the mast of a ship that must have been completely wrecked : for there were the remains of handkerchiefs by which some of the crew had fastened themselves to the spar, to prevent their being washed off by the waves. There was no trace by which the name of the ship could be ascertained.

The wreck had evidently drifted about for many months ; clusters of shell-fish had fastened about it, and long sea-weeds flaunted at its sides. But where, thought I, is the crew ? Their struggle has long been over ; they have gone down amid the roar of the tempest ; their bones lie whitening among the caverns of the deep. Silence and oblivion, like the waves, have closed over them, and no one can tell the story of their end. What sighs have been wafted after that ship ! what prayers offered up at the deserted fireside of home ! How often has the father, the wife, the mother, pored over the daily news, to catch some casual intelligence of this rover of the deep ! How has expectation darkened into anxiety ; anxiety into dread ; and dread into despair ! Alas ! not one memento shall ever return for love to cherish. All that shall ever be known, is, that she sailed from her port, "and was never heard of more."

The sight of the wreck gave rise to many dismal anecdotes. This was particularly the case in the evening, when the weather, which had hitherto been fair, began to look wild and threatening, and gave indications of one of those sudden storms that will sometimes break in upon the serenity of a summer's voyage. As we sat around the dull light of a lamp, in the cabin, that made the gloom more ghastly, every one had his tale of shipwreck and disaster. I was particularly struck by a short one related by the captain.

"As I was once sailing," said he, "in a fine, stout ship, across the banks of Newfoundland, one of those heavy fogs that prevail in those parts, rendered it impossible for us to see far ahead, even in the day time; but at night, the weather was so thick, that we could not distinguish any object at twice the length of the ship. I kept lights at the mast-head and a constant watch forward, to look out for fishing-smacks, which are accustomed to lie at anchor on the banks. The wind was blowing a smacking breeze, and we were going at a great rate through the water. Suddenly, the watch gave the alarm of 'a sail a-head!' It was scarcely uttered before we were upon her. She was a small schooner at anchor, with her broadside toward us. The crew were all asleep, and had neglected to hoist a light.

"We struck her just amidships. The force, the size, the weight of our vessel, bore her down below the waves; we passed over her, and were hurried on our course. As the crashing wreck was sinking beneath us, I had a glimpse of two or three half-naked wretches, rushing from her cabin; they just started from their beds, to be swallowed shrieking by the waves; I heard their drowning cry, mingling with the wind. The blast that bore it to our ears swept us out of all further hearing. I shall never forget that cry! It was some time, before we could put the ship about, she was under such headway. We returned as nearly as we could guess, to the place where the smack had anchored. We cruised about for several hours in the dense fog. We fired signal-guns, and listened if we might hear the halloo of any survivors; but all was silent—we never saw or heard anything of them more."

I confess these stories, for a time, put an end to all my fine fancies. The storm increased with the night. The sea was lashed into tremendous confusion. There was a fearful sullen sound of rushing waves and broken surges. At times, the black volume of clouds overhead seemed rent asunder by flashes of lightning, that quivered along the foaming billows, and made the succeeding darkness doubly terrible. The thunders belled over the wild waste of waters, and were echoed and

prolonged by the moaning waves. As I saw the ship staggering and plunging among these roaring caverns, it seemed miraculous that she regained her balance, or preserved her buoyancy. Her yards would dip into the water; her bow was almost buried beneath the waves. Sometimes, an impending surge appeared ready to overwhelm her, and nothing but a dexterous movement of the helm preserved her from the shock.

When I retired to my cabin, the awful scene still followed me. The whistling of the wind through the rigging, sounded like funeral wailings. The creaking of the masts, the straining and groaning of bulk-heads, as the ship labored in the weltering sea, were frightful. As I heard the waves rushing along the sides of the ship, and roaring in my very ear, it seemed as if death were raging round this floating prison, seeking for his prey: the mere starting of a nail, the yawning of a seam, might give him entrance.

A fine day, however, with a tranquil sea and favoring breeze, soon put all these dismal reflections to flight. It is impossible to resist the gladdening influence of fine weather and fair wind at sea. When the ship is decked out in all her canvas, every sail swelled, and careering gaily over the curling waves, how lofty, how gallant she appears! how she seems to lord it over the deep! But it is time to get ashore.

It was a fine sunny morning, when the thrilling cry of "land!" was heard from the mast-head. None, but those who have experienced it, can form an idea of the delicious throng of sensations which rush into an American's bosom, when he first comes in sight of Europe. There is a volume of associations with the very name. It is the land of promise, teeming with everything of which his childhood has heard, or on which his studious years have pondered...From that time, until the moment of arrival, it was all feverish excitement. The ships of war, that prowled like guardian giants along the coast; the headlands of Ireland, stretching out into the channel; the Welsh mountains, towering into the clouds; all were objects of intense interest. As we sailed up the Mersey, my eye dwelt with delight on neat cottages, with their trim shrubberies and green grass-plats. I saw the ruins of an abbey overrun with ivy, and the spire of the village church, rising from the brow of a neighbouring hill. All were characteristic of England.

The tide and wind were so favorable, that the ship was enabled to come at once to the pier. It was thronged with people; some, idle lookers-on; others, eager expectants of friends or relatives. *I could distinguish the merchant to whom*

the ship was consigned. I knew him by his calculating brow and restless air. His hands were thrust into his pockets ; he was whistling thoughtfully, and walking to and fro, a small space having been accorded to him by the crowd, in deference to his temporary importance. There were repeated cheerings and salutations interchanged between the shore and the ship, as friends happened to recognise each other.

I particularly noticed one young woman, of humble dress, but interesting demeanor. She was leaning forward from among the crowd ; her eye hurried over the ship as it neared the shore, to catch some wished-for countenance. She seemed disappointed and agitated, when I heard a faint voice call her name ... It was from a poor sailor who had been ill all the voyage, and had excited the sympathy of every one on board. When the weather was fine, his messmates had spread a mattress for him, on deck, in the shade ; but of late, his illness had so increased, that he had taken to his hammock, and only breathed a wish, that he might see his wife before he died. He had been helped on deck, as we came up the river, and was now leaning against the shrouds, with a countenance so wasted, so pale, so ghastly, that it was no wonder even the eye of affection did not recognise him. But at the sound of his voice, her eye darted on his features ; it read at once the whole volume of sorrow ; she clasped her hands, uttered a faint shriek, and stood wringing them in silent agony.

All was now hurry and bustle ; the meetings of acquaintances ; the greetings of friends ; the consultations of men of business. I alone was solitary and idle. I had no friend to meet, no cheering to receive. I stepped upon the land of my forefathers, but felt that I was a stranger in the land.

W. Irving.

THE MONK.

A POOR monk of the order of St. Francis, came into the room to beg something for his convent. The moment I cast my eyes upon him, I was predetermined not to give him a single sou ; and, accordingly, I put my purse into my pocket, buttoned it up, set myself a little more upon my centre, and advanced gravely to him. There was something, I fear, forbidding in my look ; I have his figure this moment before my eyes, and think there was that in it which deserved better.

The monk, as I judged from the break in his tonsure, a few scattered white hairs being all that remained of it, might be

about seventy ; but from his eyes, and that sort of fire that was in them, which seemed more tempered by courtesy than years, could be no more than sixty : truth might lie between ; he was certainly sixty-five, and the general air of his countenance, notwithstanding something seemed to have been planting wrinkles in it before their time, agreed to the account ... It was one of those heads which Guido has often painted ; mild, pale, penetrating ; free from all commonplace ideas of fat, contented ignorance looking downward upon the earth, it looked forward ; but looked as if it looked at something beyond this world. How one of his order came by it, Heaven above, who let it fall upon a monk's shoulders, best knows ; but it would have suited a Brahmin, and had I met it upon the plains of Hindostan, I should have reverenced it.

The rest of his outline may be given in a few strokes ; one might put it into the hands of any one to design, for it was neither elegant nor otherwise, but as character and expression made it so : it was a thin, spare form, something above the common size, if it lost not the distinction by a bend forward in the figure ; but it was the attitude of entreaty ; and, as it now stands present to my imagination, it gained more than it lost by it.

When he had entered the room three paces, he stood still ; and laying his left hand upon his breast, a slender, white staff, with which he journeyed, being in his right, when I had got close up to him, he introduced himself with the little story of the wants of his convent, and the poverty of his order ; and did it with so simple a grace, and such an air of deprecation was there in the whole cast of his look and figure, I was bewitched not to have been struck with it. One reason was, I had pre-determined not to give him a single sou.

“ ‘Tis very true,” said I, replying to a cast upward with his eyes, with which he had concluded his address, “ ‘tis very true, and Heaven be their resource who have no other but the charity of the world, the stock of which, I fear, is no way sufficient for the many great claims which are hourly made upon it” ... As I pronounced the words “great claims,” he gave a slight glance with his eye downward upon the sleeve of his tunic. I felt the full force of the appeal ... “I acknowledge it,” said I, “a coarse habit, and that but once in three years, and meagre diet, are no great matters ; the true point of pity is, as they can be earned in the world with so little industry, that your order should wish to procure them by pressing upon a fund which is the property of the lame, the blind, the aged, and the infirm : the captive, who lies down, counting over and over again the

days of his afflictions, languishes, also, for his share of it ; and had you been of the *order of Mercy*, instead of the order of St. Francis, poor as I am," continued I, pointing at my portmanteau, "full cheerfully should it have been opened to you for the ransom of the unfortunate." ... The monk made me a bow.

"But of all others," resumed I, "the unfortunate of our own country have the first rights ; I have left thousands in distress upon our own shore." The monk gave a cordial wave of the head, as much as to say : No doubt there is misery enough in every corner of the world, as well as within our convent... "But we distinguish," said I, laying my hand upon the sleeve of his tunic, in return for his appeal, "we distinguish, my good father, betwixt those who wish to eat only the bread of their own labor, and those who eat the bread of other people's, and have no other plan in life but to get through it in sloth and ignorance, '*for the love of God.*'" ... The poor Franciscan made no reply : a hectic flush, for a moment, passed across his cheek, but could not tarry. Nature seemed to have done with her resentments in him ; he showed none, but letting his staff fall within his arm, he pressed both his hands with resignation upon his breast, and retired.

My heart smote me, the moment he shut the door. "Pshaw!" said I, with an air of carelessness, three several times : but it would not do : every ungracious syllable I had uttered crowded back into my imagination ; I reflected I had no right over the poor Franciscan, but to deny him ; and that the punishment of that was enough to the disappointed, without the addition of unkind language. I considered his grey hairs ; his courteous figure seemed to re-enter, and gently ask me what injury he had done me ? and why I could use him thus ? I would have given twenty pounds for an advocate. I have behaved very ill, said I, within myself ; but I have only just set out upon my travels, and shall learn better manners as I get along.

Sterne.



MASSACRE OF GLENCOE (1691).

THE authorities at Edinburgh put forth a proclamation exhorting the Highland clans to submit to King William and Queen Mary, and offering pardon to every rebel who, on or before the thirty-first of December 1691, should swear to live peaceably under the new government. It was announced that those who should hold out after that day would be treated as enemies and traitors.

The thirty-first of December arrived; and still the Macdonalds of Glencoe had not come in. The punctilious pride of Mac Ian was doubtless gratified by the thought that he had continued to defy the government after the boastful Glengarry, the ferocious Keppoch, the magnanimous Lochiel had yielded: but he bought his gratification dear.

The news that Mac Ian had not submitted within the prescribed time was received with cruel joy by three powerful Scotchmen, who were then at the English court. To Argyle, as to his cousin Breadalbane, the intelligence that the tribe of Glencoe was out of the protection of the law was most gratifying; and the Secretary, the Master of Stair, more than sympathised with them both ... The feeling of Argyle and Breadalbane is perfectly intelligible. They were the heads of a great clan; and they had an opportunity of destroying a neighboring clan with which they were at deadly feud. Breadalbane had received peculiar provocation. His estate had been repeatedly devastated; and he had just been thwarted in a negotiation of high amount. The Earl of Stair hated the Highlanders, not as enemies of this or that dynasty, but as enemies of law, of industry, and of trade. To the last moment he continued to flatter himself that the rebels would be obstinate, and would thus furnish him with a plea for accomplishing that great social revolution on which his heart was set... One clan was now at the mercy of the government, and that clan the most lawless of all. One great act of justice, nay of charity, might be performed. One terrible and memorable example might be given. "Better," he wrote, "not meddle with them, than meddle to no purpose. When the thing is resolved, let it be secret and sudden." He was obeyed; and it was determined that the Glencoe men should perish, not by military execution, but by the most dastardly and perfidious form of assassination.

On the first of February, a hundred and twenty soldiers of Argyle's regiment, commanded by a captain named Campbell, and a lieutenant named Lindsay, marched to Glencoe. Captain Campbell was commonly called in Scotland, Glenlyon, from the pass in which his property lay. He had every qualification for the service on which he was employed, an unblushing forehead, a smooth lying tongue, and a heart of adamant. He was also one of the few Campbells who were likely to be trusted and welcomed by the Macdonalds: for his niece was married to Alexander, the second son of Mac Ian.

The sight of the red-coats approaching, caused some anxiety among the population of the valley. John, the eldest son of the Chief, came, accompanied by twenty clansmen, to meet the

strangers, and asked what this visit meant. Lieutenant Lindsay answered that the soldiers came as friends, and wanted nothing but quarters...They were kindly received, and were lodged under the thatched roofs of the little community. Provisions were liberally supplied. There was no want of beef, which had probably fattened in distant pastures; nor was any payment demanded, for in hospitality, as in thievery, the Gaelic marauders rivalled the Bedouins. During twelve days the soldiers lived familiarly with the people of the glen.

Meanwhile Glenlyon observed with minute attention all the avenues by which, when the signal for the slaughter should be given, the Macdonalds might attempt to escape to the hills; and he reported the result of his observations to his superior, Hamilton...Hamilton fixed five o'clock in the morning of the thirteenth of February for the deed. He hoped that before that time he should reach Glencoe with four hundred men, and should have stopped all the earths in which the old fox and his two cubs, so Mac Ian and his sons were nicknamed by the murderers, could take refuge. But at five precisely, whether Hamilton had arrived or not, Glenlyon was to fall on, and to slay every Macdonald under seventy.

The night was rough. Hamilton and his troops made slow progress, and were long after their time. While they were contending with the wind and snow, Glenlyon was supping and playing at cards with those whom he meant to butcher before daybreak. He and Lieutenant Lindsay had engaged themselves to dine with the old Chief on the morrow.

Late in the evening a vague suspicion that some evil was intended crossed the mind of the Chief's eldest son. The soldiers were evidently in a restless state, and some of them uttered strange cries. Two men, it is said, were overheard whispering. "I do not like this job," one of them muttered: "I should be glad to fight the Macdonalds. But to kill men in their beds—" "We must do as we are bid," answered another voice. "If there is anything wrong, our officers must answer for it" ... John Macdonald was so uneasy, that, soon after midnight, he went to Glenlyon's quarters. Glenlyon and his men were all up, and seemed to be getting their arms ready for action. John, much alarmed, asked what these preparations meant. Glenlyon was profuse of friendly assurances. "Some of Glengarry's people have been harrying the country. We are getting ready to march against them. You are quite safe. Do you think that, if you were in any danger, I should not have given a hint to your brother Sandy

and his wife?" ... John's suspicions were quieted. He returned to his house, and lay down to rest.

It was five in the morning. Hamilton and his men were still some miles off, and the avenues which they were to have secured were open. But the orders which Glenlyon had received were precise; and he began to execute them at the little village where he was himself quartered ... His host Inver-igen and nine other Macdonalds were dragged out of their beds, bound hand and foot, and murdered. A boy, twelve years old, clung round the captain's legs, and begged hard for life. He would do anything; he would go anywhere; he would follow Glenlyon round the world. Even Glenlyon, it is said, showed signs of relenting; but a ruffian, named Drummond, shot the child dead.

Meanwhile Lindsay had knocked at the door of the old Chief, and had asked for admission in friendly language. The door was opened. Mac Ian, while putting on his clothes and calling to his servants to bring some refreshment for his visitors, was shot through the head ... His wife was already up, and dressed in such finery as the princesses of the rude Highland glens were accustomed to wear. The assassins pulled off her clothes and trinkets. The rings were not easily taken from her fingers, but a soldier tore them away with his teeth. She died on the following day.

The peal and flash of gun after gun gave notice, from three different parts of the valley at once, that murder was doing. From fifty cottages the half naked peasantry fled under cover of the night, to the recesses of their pathless glen. Even the sons of Mac Ian, who had been especially marked out for destruction, contrived to escape. They were roused from sleep by faithful servants. John, who by the death of his father, had become the patriarch of the tribe, quitted his dwelling just as twenty soldiers with fixed bayonets marched up to it.

It was broad day long before Hamilton arrived. He found the work not even half performed. About thirty corpses lay wallowing in blood on the dunghills before the doors. One or two women were seen among the number, and a yet more fearful and piteous sight, a little hand, which had been lopped in the tumult of the butchery from some infant ... One aged Macdonald was found alive. He was probably too infirm to flee, and, as he was above seventy, was not included in the orders under which Glenlyon had acted. Hamilton murdered the old man in cold blood ... The deserted hamlets were then set on fire; and the troops departed, driving away with them

many sheep and goats, nine hundred kine, and two hundred of the small shaggy ponies of the Highlands.

It is said, and may but too easily be believed, that the sufferings of the fugitives were terrible. How many old men, how many women with babes in their arms, sank down and slept their last sleep in the snow; how many, having crawled, spent with toil and hunger, into nooks among the precipices, died in those dark holes, and were picked to the bone by the mountain ravens, can never be known. But it is probable that those who perished by cold, weariness, and want, were not less numerous than those who were slain by the assassins.

When the troops had retired, the Macdonalds crept out of the caverns of Glencoe, ventured back to the spot where the huts had formerly stood, collected the scorched corpses from among the smoking ruins, and performed some rude rites of sepulture ... The tradition runs that the hereditary bard of the tribe took his seat on a rock which overhung the place of slaughter, and poured forth a long lament over his murdered brethren and his desolate home. Eighty years later that sad dirge was still chanted by the people of the valley. *Macaulay.*

A TALE OF TERROR.

I WAS once travelling in Calabria, a land of wicked people who, I believe, hate every one, and particularly the French; the reason why would take long to tell you. Suffice it to say that they mortally hate us, and that one gets on very badly when one falls into their hands. In these mountains the roads are precipices; our horses got on with much difficulty; my companion went first. A path which appeared to him shorter and more practicable led us astray. It was my fault. Ought I to have trusted to a head only twenty years old? ... Whilst daylight lasted we tried to find our way through the wood, but the more we tried the more bewildered we became, and it was pitch dark when we arrived at a very black-looking house. We entered, not without fear; but what could we do? We found a whole family of colliers at table. They immediately invited us to join them; my young man did not wait to be pressed. There we were eating and drinking; he at least, for I was examining the place and the appearance of our hosts ... Our hosts had quite the look of colliers, but the house you would have taken for an arsenal. There was nothing but guns

swords, knives, and cutlasses. Everything displeased me I saw very well that I displeased them ... My companion, on the contrary, was quite one of the family; he had talked with them, and with an imprudence that I had foreseen, he told at once where we came from, where we were going, and that we were Frenchmen. Just so! amongst our most mortal enemies, alone, out of our far from all human succor, and then to omit nothing that ruin us, he played the rich man; promised to the next morning, as a remuneration to these people and guides, whatever they wished ... Then he spoke of his manteau, begging them to take care of it, and to put it at end of his bed; he did not wish, he said, for any other

Oh, youth, youth, you are to be pitied! Cousin, one have thought that we carried the crown diamonds... Supper, they left us. Our hosts slept below; we in the room where we had supped. A loft, raised some seven feet, which was reached by a ladder, was the resting-place awaited us; a sort of nest, into which we were to enclose ourselves by creeping under joists loaded with pro-

for the year... My companion climbed up alone, and, nearly asleep, laid himself down with his head upon his portmanteau ... Having determined to sit up, I made a good fire, and seated myself by the side of it. The fire which had been undisturbed, was nearly over, and I tried to reassure myself; when, about the time that I thought break of day could not be far off, I heard our host and his wife, disputing below; and, putting my ear to the wall which communicated with the one in the lower room, I distinguished these words, spoken by the husband: "let us see, must they both be killed?" To which the wife replied, "Yes;" and I heard no more... How shall I go on I stood scarcely breathing; my body cold as marble. I have seen me you could hardly have known if I were dead or alive ... Good heavens, when I think of it now! We two, without weapons, against twelve or fifteen, who had so and my companion dead with sleep and fatigue! To move, or make a noise, I dared not; to escape alone was impossible. The window was not high, but below were two great owls, hooting like wolves. In what an agony I was, imagine you can ... At the end of a long quarter of an hour I heard her on the stairs, and through the crack of the door I saw her, his lamp in one hand, and in the other one of his knives. He came up, his wife after him. I was be-

hind the door. He opened it, but before he came in he put down the lamp, which his wife took. He then entered barefoot, and from outside the woman said to him, in a low voice, shading the light of the lamp with her hand, "Softly, go softly." ... When he got to the ladder, he mounted it, his knife between his teeth; and getting up as high as the bed,—the poor young man lying with his throat bare,—with one hand he grasped his knife, and, with the other,—oh, cousin!—he seized a ham which hung from the ceiling, cut a slice from it, and retired as he had come ... The door was closed again, the lamp vanished, and I was left alone with my reflections...As soon as day appeared, all the family, making a great noise, came to awaken us, as we had requested. They brought us something to eat, and gave us a very clean and a very good breakfast, I assure you...Two capons formed part of it, of which we must, said our hostess, take away one and eat the other. When I saw them I understood the meaning of those terrible words, "Must they both be killed?" And I think, cousin, you have enough penetration to guess now what they signified.

Courier.

.. FIRST IMPRESSIONS OF A YOUNG SAILOR.

WITH all my imperfections on my head, I joined my first ship, and we hauled out into the stream, and came to anchor for the night. The next morning was Saturday, and a breeze having sprung up from the southward, we took a pilot on board, hove up our anchor, and began beating down the bay ... I took leave of those of my friends who had come to see me off, and I had barely opportunity to take a last look at the city of my birth, as no time is allowed on board ship for sentiment. As we drew down into the lower harbor, we found the wind ahead in the bay, and were obliged to come to anchor in the roads... We remained there through the day, and a part of the night. About midnight the wind became fair, and having roused the captain, I was ordered to call all hands. How I accomplished this I do not know; but I am quite sure that I did not give the true boatswain song of "A-a-ll ha-a-nds! up anchor, a-ho-oy!" In a short time every one was in motion, the sail loosed, the yards braced, and we began to heave up the anchor, which was our last hold upon Yankee land. I could take but little part in all these preparations: my little knowledge of a

vessel was all at fault. Unintelligible orders were so rapidly given, and so immediately executed; there was such a hurrying about, and such an intermingling of strange cries and stranger actions, that I was completely bewildered. There is not so helpless and pitiable an object in the world, as a landsman beginning a sailor's life... At length, those peculiar long-drawn sounds which denote that the crew are heaving at the windlass, began; and in a few moments we were under way. The noise of the water thrown from the bow began to be heard, the vessel leaned over from the damp night breeze and rolled with the heavy ground-swell, and we had actually begun our long, long voyage. This was literally bidding "good night" to my native land.

The first day we passed at sea was the Sabbath. As we were just from port, and there was a great deal to be done on board, we were kept at work all day, and at night the watches had time for reflection. I felt for the first time the perfect silence of the sea. The officer was walking the quarter deck, where I had no right to go; one or two men were talking on the forecastle, whom I had little inclination to join, so that I was left open to the full impression of everything about me... However much I was affected by the beauty of the sea, the bright stars, and the clouds driven swiftly over them, I could not but remember that I was separating myself from all the social and intellectual enjoyments of life. Yet strange as it may seem, I did then and afterwards take pleasure in these reflections, hoping by them to prevent my becoming insensible to the value of what I was leaving.

But all my dreams were soon put to flight by an order from the officer to trim the yards, as the wind was getting ahead, and I could plainly see, by the looks the sailors occasionally cast to windward, and by the dark clouds that were fast coming up, that we had bad weather to prepare for; and I had heard the captain say that he expected to be in the Gulf Stream by twelve o'clock. In a few minutes eight bells were struck; the watch called, and we went below.

I now began to feel the first discomforts of a sailor's life. The steerage in which I lived was filled with coils of rigging, spare sails, and ship stores, which had not been stowed away. Moreover, there had been no berths built for us to sleep in, and we were not allowed to drive in nails to hang our clothes upon .. The sea too had risen, the vessel was rolling heavily, and everything was pitched about in grand confusion. I shortly heard the rain-drops falling on deck thick and fast; and

the watch evidently had their hands full of work, for I could hear the loud and repeated orders of the mate, the trampling of feet, the creaking of blocks, and all the accompaniments of a coming storm.

When I got upon deck, a new scene, and a new experience were before me. The little brig was close hauled upon the wind and lying over, as it then seemed to me, nearly upon her beam ends. The heavy head-sea was beating against her bows, with the noise and force of a sledge-hammer; and flying over the deck, drenching us completely through... The topsail halliards had been let go, and the great sails were filling out, and backing against the masts with a noise like thunder. The wind was whistling through the rigging, loose ropes were flying about; loud, and to me, unintelligible orders were being constantly given, and rapidly executed, and the sailors were "singing out" at the ropes in their hoarse and peculiar strains... In addition to all this, I had not got my "sea-legs" on, was dreadfully sick, with hardly strength enough to hold on to anything, and it was "pitch dark." This was my state, when I was ordered aloft for the first time, to reef topsails.

How I got along, I cannot now remember. I "laid out" on the yards, and held on with all my strength. I could not have been of much service, for I remember having been sick several times before I left the topsail yard. Soon all was snug aloft, and we were allowed to go below... This I did not consider much of a favor, for the confusion of everything below, and that inexpressible sickening smell caused by the shaking up of the bilge-water in the hold, made the steerage but an indifferent refuge from the cold wet decks. I had often read of the nautical experiences of others, but I felt as though there could be none worse than mine; for in addition to every other evil, I could not but remember that this was only the first night of a two years' voyage.

This state of things continued for two days. On Wednesday morning, when I came on deck at four o'clock, I found things much changed for the better. The sea and wind had gone down, and the stars were out bright. I expected a corresponding change in my feelings; yet continued extremely weak from my sickness. I stood in the waist on the weather side, watching the gradual breaking of the day, and the first streaks of the early light... Much has been said of the sunrise at sea; but it will not compare with the sunrise on shore. It wants the accompaniments of the songs of birds, the awakening hum of men, and the glancing of the first beams upon trees, hills,

spires, and house-tops, to give it life and spirit. But though the actual *rise of the sun* at sea is not so beautiful, yet nothing will compare with the *early breaking of day* upon the wide ocean.

There is something in the first grey streaks stretching along the eastern horizon and throwing an indistinct light upon the face of the deep, which combines with the boundlessness and unknown depth of the sea around you, and gives one a feeling of loneliness, of dread, and of melancholy foreboding, which nothing else in nature can give. This gradually passes away as the light grows brighter, and when the sun comes up, the ordinary monotonous sea day begins.

Dana.

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THE EPHEMERA; AN EMBLEM OF HUMAN LIFE.

You may remember, my dear friend, that when we lately spent that happy day in the delightful garden and sweet society of the *Moulin Joly*, I stopped a little in one of our walks, and stayed some time behind the company. We had been shown numberless skeletons of a kind of little fly, called an *ephemera*, whose successive generations, we were told, were bred and expired within the day... I happened to see a living company of them on a leaf, who appeared to be engaged in conversation. You know I understand all the inferior animal tongues. My too great application to the study of them is the best excuse I can give for the little progress I have made in your charming language.

I listened through curiosity to the discourse of these little creatures; but, as they, in their national vivacity, spoke three or four together, I could make but little of their conversation. I found, however, by some broken expressions that I heard now and then, they were disputing warmly on the merit of two foreign musicians, one a *cousin*, the other a *mosquito*; in which dispute they spent their time, seemingly as regardless of the shortness of life as if they had been sure of living a month.

Happy people! thought I; you are certainly under a wise, just, and mild government, since you have no public grievances to complain of, nor any subject of contention, but the perfections and imperfections of foreign music... I turned my head from them to an old grey-headed one, who was single on another leaf, and talking to himself. Being amused with his

soliloquy, I put it down in writing, in hopes it will likewise amuse her to whom I am so much indebted for the most pleasing of all amusements, her delicious company and heavenly harmony.

“It was,” said he, “the opinion of learned philosophers of our race, who lived and flourished long before my time, that this vast world, the Moulin Joly, could not itself subsist more than eighteen hours; and I think there was some foundation for that opinion; since, by the apparent motion of the great luminary that gives life to all nature, and which in my time has evidently declined considerably toward the ocean at the end of our earth, it must then finish its course, be extinguished in the waters that surround us, and leave the world in cold and darkness, necessarily producing universal death and destruction.

“I have lived seven of those hours, a great age, being no less than four hundred and twenty minutes of time. How very few of us continue so long! I have seen generations born, flourish, and expire. My present friends are the children and grandchildren of the friends of my youth, who are now, alas, no more! And I must soon follow them; for, by the course of nature, though still in health, I cannot expect to live above seven or eight minutes longer.

“What now avails all my toil and labor, in amassing honeydew on this leaf, which I cannot live to enjoy! What political struggles I have been engaged in, for the good of my compatriot inhabitants of this bush, or my philosophical studies for the benefit of our race in general! for, in politics, what can laws do without morals? Our present race of ephemerae will in the course of minutes become corrupt, like those of other and older bushes, and consequently as wretched.

“And in philosophy how small our progress! Alas! art is long, and life is short! My friends would comfort me with the idea of a name, they say, I shall leave behind me; and they tell me I have lived long enough to nature and to glory. But what will fame be to an ephemera who no longer exists? And what will become of all history in the eighteenth hour, when the world itself, even the whole Moulin Joly, shall come to its end, and be buried in universal ruin?”

Benjamin Franklin.

A TIDAL HARBOR AT EBB AND FLOW.

I HARDLY know two things more different in appearance than what is called a tide harbor when the sea is in, and the same harbor when the sea is out. At high water we behold a beautiful basin, brim full, and bearing on its surface numberless vessels, all of whose masts, ropes and sails loosed to dry, are reflected in the mirror upon which they rest so gracefully, the bold originals, in all their pomp and bustle, or their inverted and softened representations beneath ... The little boats which pass up and down or flit across the harbor, and the ships arriving or departing, some dropping their anchor with a thundering splash into the stream, and others laboriously heaving up that ponderous load of iron to their bows, give an endless variety to this busy scene. The cheerful voice of the seamen, singing as they work, mingled with the anxious word of command spoken by the cautious pilots, form a fitting music for the scene.

Even the brawling of the noisy boatmen has its characteristic and stirring interest, as they cross or recross the port with hawsers, which they tie and untie, or pass along from post to post, with an address that astonishes the ignorant and delights the professional eye, netting the whole space over with cords with the industry of spiders, as if their mischievous purpose were to catch or retain the ships, not to expedite their departure or aid their entrance into the port ... The adjacent wharves and piers, at that busiest, because the most available season of the tide, are generally crowded with spectators, composed either of persons eagerly watching the arrival of long-looked-for friends, or bidding an adieu to those who are departing; or finally, of that large majority of idlers, who, having no precise business anywhere, are attracted, unconsciously, by the beauty and interest of this ever varying scene, and who, without having either taste or knowledge enough to analyse their feelings, are yet moved by what is so essentially picturesque, that the dullest senses are made to feel its charm.

Nor is this a scene which palls on the observation, for it is scarcely possible that we shall discover it to be alike on any two days of the year. On one day there may be either a faint breeze, or a dead calm. The vessels, in that case, drop out gently to sea with the first turn of the ebb, while others enter the harbor with the last drain of flood — each being aided by a little tiny boat, connected with its parent bark by a cord, alternately dipping in the water and jerking out of it, as the seamen with a loud huzza strain their backs to the oar.

Or it may happen, that an entering or departing ship is drawn along by a rope or warp, as it is called, kept as tight as a rod of iron, fifty or a hundred hands lining the long projecting pier, at the end of which stands the lighthouse—that lighthouse of which in the blaze of sunshine it has been satirically remarked, we take no more note than of a friend whose assistance we require no longer; though it probably crosses the recollection of some of the more reflecting of the spectators, that the time has been when, in a dark stormy night, a single glimpse of this now neglected beacon was held worth a ship load of silver. ...On such a time as I am speaking of, dozens, or even hundreds of ships and vessels of various sizes and descriptions, from all the mercantile nations of the earth, are seen jostling one another, dropping out, or dropping in, towing, warping, sailing, steaming on their different courses, "a mighty maze, but not without a plan." Even to inexperienced observation this apparent mass of confusion is very pleasing, though to such it must seem as inexplicable and beyond control, as that of the planetary movements, or the vagaries of the moon, which all admire though few understand.

When, however, there happens to be a brisk wind blowing, the scene is totally different. The elements now meet in opposition, for the wind, instead of slumbering as before, and letting the silent tide have its own placid way, is roused up, and having set itself against the current, sorely puzzles, but rarely baffles entirely, the skill of the seamen. Then it is that the talents and local knowledge of the pilots and the hardy intrepidity of the captains come into play; and men who, in the calm of the day before we should not have discovered to be much above their fellows in courage or capacity, now claim their due superiority...At such moments the commander is cheerfully and even eagerly obeyed by those very men who, in the pride of ignorance and the presumption of security, were far less docile in the calm.

If we watch a ship coming in, we shall see the anchor all ready to let go, the cables ranged along the deck, the leadsmen in the chains taking cast after cast as briskly as he can, and singing out the soundings to the anxious pilot, as the harbor's mouth is neared...On entering it, the tacks become shorter, and are made with more smartness. The helm is put down quickly, the head-sheets let fly in a moment, and about she comes. The yards spin round, ropes crack and sails shake, as if the whole machinery of seamanship was going to pieces. As she heels to the gale, under the unrestrained leverage of the masts, the old ship creaks from stem to stern, by the friction

of the timbers and the beams against one another, and to shore-going senses it would seem as if the danger was great.

But if we now take notice of the weather-wise glance of the pilot's eye, or mark the tranquil deportment of the captain by his side, or observe the cheery laugh of the dripping crew, as the waves curl or break over them, we shall understand, although we cannot tell how, that in the midst of what seems tumult and hazard and difficulty, all is order and safety. Thus at moments when in our ignorance we fancy the vessel is to be driven against the rocks or absorbed by the seas as she gradually forces her way in or out of the harbor, we discover that the people most concerned know that all danger is past, and are chatting at their ease about indifferent matters.

Captain Hall.



TWO RIVALS ; OR, PREVENTION BETTER THAN CURE.

“Home is home, though it is never so homely.” Homes there are, we are sure, that are no homes ; the home of the very poor man, and another we shall speak of presently.

Crowded places of cheap entertainment, and the benches of ale-houses, if they could speak, might bear mournful testimony to the first. To them the very poor man resorts for an image of the home which he cannot find at home. For a starved grate, and a scanty firing, that is not enough to keep alive the natural heat in the fingers of so many shivering children, with their mother, he finds, in the depths of winter, always a hob to warm his pittance of beer by... Instead of the clamors of a wife, made gaunt by famishing, he meets with a cheerful attendance, beyond the merits of the trifle which he can afford to spend. He has companions which his home denies him ; for the very poor man has no visitors. He can look into the goings on of the world, and speak a little of politics... At home there are no politics stirring, but the domestic. All interests, real or imaginary, all topics that should expand the mind of man, and connect him to a sympathy with general existence, are crushed in the absorbing consideration of food to be obtained for the family. Beyond the price of bread, news is senseless and impertinent... At home there is no larder. Here there is at least show of plenty ; and while he cooks his lean scrap of butcher's meat before the common bars, or munches his humbler cold viands, his relishing bread and cheese with an onion, in a corner where no one reflects upon his poverty, he has a sight of the substantial joint providing for the land-

lord and his family. He takes an interest in the dressing of it; and while he assists in removing the trivet from the fire, he feels that there are such things as beef and cabbage, which he was beginning to forget at home ... All this time he forgets his wife and children. But what wife, and what children? Prosperous men, who object to this desertion, image to themselves some clean, contented family, like that they go home to...But look at the countenances of the poor wives who follow their husbands to the doors of the public-houses which they are about to enter. That face, ground by want, in which every cheerful, every conversible lineament has been long effaced by misery, is that a face to stay at home with? Is it more a woman or a wild cat? Alas! it is the face of the wife of his youth, who once smiled upon him. It can smile no longer. What comforts can it share? What burdens can it lighten? Oh, 'tis a fine thing to talk of the humble meal shared together! But what, if there be no bread in the cupboard? ... The innocent prattle of his children takes out the sting of a man's poverty. But the children of the very poor do not prattle. It is none of the least frightful features in that condition that there is no childishness in its dwellings. "Poor people," said a sensible old nurse to us once, "do not bring up their children, they drag them up" ... The little, careless darling of the wealthier nursery, in their hovel, is transformed betimes into a premature reflecting person. No one has time to dandle it; no one thinks it worth while to coax it, to soothe it, to toss it up and down, to humor it. There is none to kiss away its tears. If it cries, it can only be beaten... It has been prettily said, that "a babe is fed with milk and praise." But the aliment of this poor babe was thin, unnourishing; the return to its little baby-tricks, and efforts to engage attention, bitter, ceaseless ob-jurgation ... It never had a toy, or knew what a coral meant. It grew up without the lullaby of nurses; it was a stranger to the patient fondle, the hushing caress, the attracting novelty, the costlier plaything, or the cheaper off-hand contrivance to divert the child; the prattled nonsense—best sense to it—the wise impertinences, the apt story, that puts a stop to present sufferings, and awakens the passions of young wonder... It was never sung to; no one ever told it a tale of the nursery. It was dragged up, to live or to die as it happened. It had no young dreams. It broke at once into the iron-realities of life. A child exists not, for the very poor, as any object of dalliance; it is only another mouth to be fed, a pair of little hands, to be betimes inured to labour. It is the rival, till it can be the

co-operator, for food with the parent. It is never his mirth, his diversion, his solace ; it never makes him young again, with recalling his young times. The children of the very poor have no young times...It makes the very heart to bleed to overhear the casual street-talk between a poor woman and her little girl,—a woman of the better sort of poor, in a condition rather above the squalid beings which we have been contemplating. It is not of toys, of nursery books, of summer holidays, fitting that age, of the promised sight or play, of praised sufficiency at school. It is of mangling and clear-starching, of the price of coals or of potatoes...The questions of the child, that should be the very outpourings of curiosity in idleness, are marked with forecast and melancholy providence. It has come to be a woman before it was a child. It has learnt to go to market ; it chaffers, it haggles, it envies, it murmurs ; it is knowing, acute, sharpened ; it never prattles. Had we not reason to say that the home of the very poor is no home ?

Charles Lamb.



THE TOWN PUMP.

Noon, by the north clock ! Noon, by the east ! High noon, too, by those hot sunbeams which fall, scarcely aslope, upon my head, and almost make the water bubble and smoke in the trough under my nose. Truly, we public characters have a tough time of it ! And among all the town officers, chosen at the yearly meeting, where is he that sustains, for a single year, the burden of such manifold duties as are imposed, in perpetuity, upon the Town Pump.

The title of town treasurer is rightfully mine, as guardian of the best treasure the town has. The overseers of the poor ought to make me their chairman, since I provide bountifully for the pauper, without expense to him that pays taxes...I am at the head of the fire department, and one of the physicians of the board of health. As a keeper of the peace, all water-drinkers confess me equal to the constable. I perform some of the duties of the town clerk, by promulgating public notices, when they are pasted on my front.

To speak within bounds, I am chief person of the municipality, and exhibit, moreover, an admirable pattern to my brother officers, by the cool, steady, upright, downright, and impartial discharge of my business, and the constancy with which I stand to my post. Summer or winter, nobody seeks me in vain ; for all day long I am seen at the busiest corner, just above the market, stretching out my arms to rich and poor

alike ; and at night I hold a lantern over my head, both to show where I am, and to keep people out of the gutters.

At this sultry noontide, I am cupbearer to the parched populace, for whose benefit an iron goblet is chained to my waist. Like a dramseller on the public square, on a muster day, I cry aloud, to all and sundry, in my plainest accents, and at the very tiptop of my voice. Here it is, gentlemen ! Here is the good liquor ! Walk up, walk up, gentlemen, walk up, walk up ! Here is the superior stuff ! Here is the unadulterated ale of father Adam ! better than brandy, gin, rum, strong beer, or wine of any price ; here it is, by the hogshead or single glass, and not a farthing to pay ! Walk up, gentlemen, walk up and help yourselves !

It were a pity if all this outcry should draw no customers. Here they come. A hot day, gentlemen. Quaff and away again, so as to keep yourselves in a nice, cool sweat. You, my friend, will need another cupful to wash the dust out of your throat, if it be as thick there as it is on your cowhide shoes. I see that you have trudged half a score of miles to-day, and, like a wise man, have passed by the taverns, and stopped at the running brooks and bubbling springs. Otherwise, betwixt heat without and fire within, you would have been burnt to a cinder, or melted down to nothing at all, in the fashion of a jellyfish.

Drink, and make room for that other fellow, who seeks my aid to quench the fiery fever of last night's potations, which he drained from no cup of mine. Welcome, most rubicund sir ! You and I have been great strangers hitherto ; nor, to confess the truth, will my nose be anxious for a closer intimacy, till the fumes of your breath be a little less potent.

Mercy on you, man ! The water absolutely hisses down your red-hot gullet, and is converted quite into steam in the miniature Tophet which you mistake for a stomach. Fill again, and tell me, on the word of an honest toper, did you ever, in cellar, tavern, or any other kind of dramshop, spend the price of your children's food for a swig half so delicious ? Now, for the first time these ten years, you know the flavor of cold water. Good-bye ; and whenever you are thirsty, recollect that I keep a constant supply, at the old stand.

Who next ? Oh, my little friend, you are just let loose from school, and come hither to scrub your blooming face, and drown the memory of certain taps of the rod, and other schoolboy troubles, in a draught from the Town Pump. Take it, pure as the current of your young life ; take it, and may your heart and tongue never be scorched with a fiercer thirst than now.

There, my dear child, put down the cup, and yield your place to this elderly gentleman, who treads so gingerly over the paving-stones, that I suspect he is afraid of breaking them. What! he limps by, without so much as thanking me, as if my hospitable offers were meant only for people who have no wine-cellars. Well, well, Sir, no harm done, I hope! Go, draw the cork, tip the decanter; but when your great toe shall set you a roaring, it will be no affair of mine. If gentlemen love the pleasant titillation of the gout, it is all one to the Town Pump. This thirsty dog, with his red tongue lolling out, does not scorn my hospitality, but stands on his hind legs, and laps eagerly out of the trough. See, how lightly he capers away again! Jowler, did your worship ever have the gout?

Hawthorne.

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PILCHARDS.

PILCHARDS are to Cornwall what herrings are to Yarmouth, cotton to Manchester, pigs to Ireland, and coals to Newcastle. In fact, it is doubtful if the Cornish people would not perish by inches if pilchards became extinct. If any one wants to know what pilchards are to a town, let him visit St. Ives in a pilchard season. From one side to the other of it, in every corner, cottage, lane, loft, room, inn, chapel, and church thereof there is but one odor, and that is the reeking odor of pilchards! We retreated into the most promising hotel; but alas! the pilchards followed us with their perpetual and penetrating odor ... We ordered roast beef, but fancied we dined off pilchards; we ordered brandy and water, but the pilchards had polluted the brandy: we went to bed at nine to avoid the pilchards, but they seemed to be under and over the bed, in the walls, in the bed-curtains, in the cupboards, and on the pillows.

At last I fell asleep; but I dreamed I was floating among a shoal of pilchards. They kept leaping upon me; and I believe I should have gone mad under the gathering, leaping, and loading of pilchards, if the "boots" had not just then knocked at my door, saying: "Seven o'clock, Sir, if you please!" I jumped up, thinking I had got away from the pilchards now, and dressed, and ran down to the beach for fresh air. More pilchards!

On the Hill of Love we saw a man walking steadily along a narrow path, on the highest ground overlooking the sea. He had a peculiar abstracted look, and turned away from us, and often fixed his eye upon the sea, shading his brow with his

hand ; then he would seem disappointed, and turned round and gazed harshly at us. We walked on.

Once more he came back, and scrutinised the far-spreading deep. "Ah !" said my friend, who was a feeling man and a father, "that man has sent a son to sea. I see how it is. You observe that boat yonder, that large boat ; that very boat, I doubt not, conveys his son, perhaps to embark for Australia, perhaps for New Zealand. Well, the short and simple annals of the poor are as full of feeling and sorrow at parting, as the annals of people like ourselves... Who would have thought that weepings and wailings took place last night in some one of those queer cottages below ! A mother's heart was half broken, sisters were shedding hot tears, brothers dropped one or two boyish tears ; and that father there,—you see the man cannot weep, his grief is too deep for tears, yet he seems to brush his brow occasionally... Don't interrupt the poor fisherman's grief ; it is sacred. Under that rough exterior there beats, I doubt not, as warm and tender a heart as under the most polished exterior... How eagerly does the man stare into that boat ! He appears to fix his eye on the son in it. Look at the man ! he is making a sign ; he is waving his great shawl-handkerchief. Look at the boat ! there is the son answering him by signs. Ah ! I should like to know the history of that father and son."

I was not held back by the same reverence as my friend for private sorrow, and therefore I went up to the man, the father, who indeed was so absorbed in his grief that he scarcely heeded my approach. I stood by him as he strained his eye and shaded his brow, and watched the boat as if he would fly to it or follow it, or perish in the attempt... I soon felt a little awe of him, for he was a big fellow, and seemed very doubtful and uncertain in his moodiness ; but I would have the history of the son and the parting for my note-book ; so as soon as he turned his eye off the sea and met mine, I ventured to address him. "Excuse me, my good man, excuse my intrusion upon your private sorrow, but both I and my friend there deeply sympathise with your evident grief. We conjecture that you have a son in that boat, going abroad. Will you tell us whither ?" ... The big man looked at me with a peculiar mazed glance. Again I repeated the latter part of my question ; when at length he broke silence, and roughly exclaimed : "I don't know what you mean, Sir" ... "Well," said I, "we know we have no right to intrude upon your private and paternal feelings ; but that is your son you are gazing at so earnestly on the sea, is it not ?" ... "My son, Sir ? I don't

know what you mean, Sir," answered the man again ... "Who or what, then, are you looking for so fixedly on the ocean?" "Looking for, Sir? why, for *pilchards!*!" "For what?" cried my friend, who did not catch the answer. "For *pilchards!*!" repeated I; "for *pilchards!*!" Whereupon our hearty laughter amazed the man as much as my previous questions.

This big man was a *huer*. Every fishing town and village commissions one or more huers on the heights above sea, when the pilchards are expected to come in. Such men are termed huers, from the old French word *huer*, to give an alarm; and hence perhaps the word *hue* in "hue and cry."

The huer stands where he can command an uninterrupted view of the sea, some days before the pilchards are expected to appear; and at the same time boats, nets, and men are all ready. The first thing which the huer looks for is the discoloring of the sea, described to me as if it were a leaden cloud just under the surface. This discoloring then nears the shore, shifting and changing its hue and limits; for it is caused by the presence of the shoal of pilchards... Soon the pilchards can be seen leaping and playing on the surface in increasing numbers, and they will perhaps approach the shore so closely that they can be caught in shallow water; seldom in more than fifty or sixty feet water.

The huer on Love Cliff was employed in this very look-out when we saw him. As soon as such a man discerns the coming and clouding shoal, he waves a handkerchief or branch of a tree, and men and boys near him convey the same signal to the beach ... The seine boat and another small boat have been rowed out to act under his directions. All eyes are fixed on the huer, who stands solemn and watchful, shading his brow with one hand, and waving his signal-branch with the other... The shoal of fish begin to press on, thousands upon thousands; the dark leaden cloud becomes a silvery, scaly, glancing cloud. When the shoal is fully within the shallow water, which the local huer knows full well, and when the fish begin to settle and to crowd closer and closer, then the huer gives the last decisive wave ... Previously, he had waved left or right as the shoal shifted, that the seine boat might follow it: now he waves straight downward, and thereon the seine (net) is shot overboard as speedily as possible. The lead sinks the seine at one end vertically toward the ground, while the floats buoy up the other end on the surface ... When it has been carried all round the fish, the two extremities are made fast, and the shoal is then imprisoned within an oblong barrier of net-work,

much practical skill being required in preventing more than a few of the pilchards from escaping ... The scene on shore and sea, as the fish are being hauled to the surface, rises to a prodigious pitch of excitement. The merchants to whom the boats and nets belong, and by whom the men are employed, join the "huer" on the cliff: all their friends follow them; boys shout, dogs bark madly; every little boat in the place pulls off, crammed with idle spectators; old men and women hobble down to the beach to await the news. The noise, the bustle, and the agitation increase every moment. Soon the shrill cheering cry of the boys is joined by the deep cries of the "seiners."

There they stand, six or eight stalwart sunburnt fellows ranged in a row in the "seine" boat, hauling with all their might at the tuck-net, and roaring the regular nautical "Yo—heave—oh!" in chorus ... Higher and higher rises the net, louder and louder shout the boys and the idlers. The merchant forgets his dignity, and joins them; the huer, so calm and collected hitherto, loses his self-possession, and waves his cap triumphantly ... Even you and I, reader, uninitiated spectators though we are, catch the infection, and cheer away with the rest, as if our breath depended on the effect of the next few minutes! "Hooray! hooray—Yo hoy—hoy—hoy! Pull away boys! here she comes! here they are! here they are!" The water boils and eddies; the tuck net rises to the surface, one teeming convulsed mass of shining, glancing, silvery scales; and one compact crowd of thousands of fish, each one of which is madly endeavouring to escape, appears in an instant.

The noise before was as nothing compared with this noise now. Boats as large as barges are pulled up in hot haste all round the net; baskets are forwarded by dozens; the fish are dipped up in them and shot out, like coals out of a sack, into the boats ... Ere long the men are up to their ankles in pilchards; they jump upon the rowing benches and work on, until the boats are filled with fish as full as they can hold, and the gunwales are within two or three inches of the water. Even yet the haul is not yet exhausted; the tuck net must be again let down, and left ready for a last haul, while the boats are strongly propelled to the shore, where we must join them without delay.

As soon as the fish are brought to land, one set of men, having capacious wooden shovels, spring in among them; and another set bring large hand-barrows close to the side of the boat, into which the pilchards are thrown with amazing rapidity. This operation proceeds without ceasing for a moment.

As soon as one barrow is ready to be carried to the salting-house, another is waiting to be filled.

When this labor is performed by night, which is often the case, the scene becomes doubly picturesque. The men with the shovels standing up to their knees in pilchards, working energetically; the crowd stretching down from the salting-house across the beach, and hemming in the boat all around; the uninterrupted process of men hurrying backwards and forwards with their barrows, through a narrow way, kept clear for them in the throng; the glare of the lanterns giving light to the workmen, and throwing red flashes on the fish as they fly incessantly from the shovel over the side of the boat; all together combine such a series of striking contrasts, such a moving picture of bustle and animation, as not even the most careless of spectators could ever forget.

Cornwall: Mines and Miners.

CIVILISATION: WHAT IS IT?

THE term *civilisation* has been used for a long period of time, and in many countries: ideas more or less limited, more or less comprehensive, are attached to it, but still it is adopted and understood. It is the sense of this word, the general, human, and popular sense, that we must study. There is almost always more truth in the usual acceptation of general terms, than in the apparently more precise and hard definitions of science. Common sense has given to words their ordinary signification, and common sense is the genius of mankind.

I shall describe a certain number of states of society, and then we may see if common instinct can point out the civilised state of society, the state which exemplifies the meaning that mankind naturally attaches to the term *civilisation*.

Suppose a people whose external life is pleasant and easy; they pay few taxes, they have no hardships; justice is well administered in all private relations; in a word, material existence, taken as a whole, is well and happily regulated. But at the same time the intellectual and moral existence of this people is carefully kept in a state of torpor and sluggishness—I do not say, of oppression, because that feeling does not exist among them, but of compression. This state of things is not without example. There have been a great number of small aristocratic republics where the people have been thus treated like flocks, well attended and corporeally happy, but without

intellectual and moral activity. Is this civilisation? Is this a people civilising itself?

Here is another hypothesis. Suppose a people whose material existence is less easy, less agreeable, but durable nevertheless. In compensation, their moral and intellectual wants have not been neglected; a certain amount of mental food is distributed to them; pure and elevated sentiments are cultivated among this people; their moral and religious opinions have attained a certain degree of development; but great care is taken to extinguish the principle of liberty; satisfaction is given to intellectual and moral wants, as elsewhere to material wants; to each is given his portion of truth, no one is permitted to seek it by himself. Immobility is the character of the moral life; this is the state into which the greater part of the populations of Asia have fallen, where theocratical dominion holds back humanity: this is the condition of the Hindoos, for example. I ask the same question as about the preceding people: is this a people civilising itself?

I will now completely change the nature of the hypothesis. Imagine a people among whom there is a great display of some individual liberties, but among whom disorder and inequality are excessive: strength and chance have the dominion; every one, if he is not strong, is oppressed, suffers, and perishes; violence is the ruling character of the social state. Everybody is aware that Europe has passed through this state. Is it a civilised state? It may doubtless contain the principles of civilisation which will develop themselves by degrees, but the acting principle of such a society is not, unquestionably, what the judgment of men calls civilisation.

I take a fourth and last hypothesis. The liberty of each individual is very great, inequality between them is rare, or, at least, very transient. Every one does nearly what he likes, and in power differs little from his neighbour; but there are very few general interests, very few public ideas, in a word, very little sociability: the faculties and existence of each individual come forth and flow on in isolation, without one influencing the other, and without leaving any trace behind; successive generations leave society at the same point at which they found it. This is the condition of savage tribes; liberty and equality exist, and yet, most certainly, civilisation does not.

I could multiply these hypotheses; but I think I have brought forward sufficient to elucidate the popular and natural meaning of the word *civilisation*.

It is clear that none of the conditions I have just sketched

answers, according to the natural and right understanding of men, to this term. Why not? It appears to me that the first fact which is comprehended in the word *civilisation* is the fact of progress, of development; it immediately gives the idea of a people, going on, not to change its place, but to change its condition; of a people whose condition becomes extended and ameliorated. The idea of progression, of development, seems to me to be the fundamental idea contained in the word *civilisation*.

What is this progression? What is this development? Here lies the greatest difficulty we have to encounter.

The etymology of the word seems to answer in a clear and satisfactory manner, it tells us that it means the perfecting of civil life, the development of society properly so called, of the relations of men among themselves... Such is in fact the first idea that offers itself to the minds of men, when they utter the word *civilisation*: they directly think of the extension, the greatest activity, and the best organisation of all social relations; on one hand an increasing production of means of power and prosperity in society; on the other, a more equal distribution, among individuals, of the power and prosperity produced... Is this all? Have we exhausted the natural and common meaning of the word *civilisation*? Does it contain nothing more? This is almost as if we asked: is the human species after all merely an ant-hill, a society where it is merely a question of order and prosperity, where the greater the amount of work done, and the more equitable the division of the fruits of that work, the more the aim is attained, and the progress accomplished?

The instinct of men repels so limited a definition of human destiny. It appears, at the first view, that the word *civilisation* comprehends something more extended, more complex, superior to the mere perfection of social relations, of social power, and prosperity. Facts, public opinion, the generally received meaning of the term, agree with this instinct. Take Rome in the prosperous time of the republic, after the second Punic war, at the moment of her greatest power, when she was marching to the conquest of the world, when her social state was evidently progressing. Then take Rome under Augustus, at the time when her fall commenced, at least when the progressive movement of society was arrested, when evil principles were on the point of prevailing. Yet there is no one who does not think and does not say that the Rome of Augustus was more civilised than the Rome of Fabricius or of Cincinnatus.

Let us go elsewhere ; let us take the France of the seventeenth and eighteenth centuries : it is evident, in a social point of view, that as to the amount and distribution of prosperity among individuals, the France of the seventeenth and eighteenth centuries was inferior to some other countries of Europe, to Holland, and to England, for example ... I think that in Holland and in England social activity was greater, was increasing more rapidly, and distributing its fruits better than in France. Yet, consult the judgment of men ; that will tell you that France in the seventeenth and eighteenth centuries was the most civilised country of Europe. Europe has not hesitated in answering this question. We find traces of this public opinion respecting France in all the monuments of European literature.

We could point out many other states where prosperity is greater, increases more rapidly, and is better divided among individuals than elsewhere, and yet where, by spontaneous instinct, in the judgment of men, the civilisation is considered inferior to that of other countries whose purely social relations are not so well regulated ... What is to be said ? What do these countries possess, what gives them this privileged right to the name of civilised, which compensates so largely, in the opinion of men, for what they want in other respects ?

Another development, besides that of social life, is in them strikingly manifested ; the development of individual life, of internal life, the development of man himself, of his faculties, of his sentiments, of his ideas. If society is more imperfect than elsewhere, humanity appears with more grandeur and power ... There remain many social conquests to make, but immense intellectual and moral conquests are accomplished ; many men stand in need of many benefits and many rights ; but many great men live and shine before the world. Literature, science, and the arts display all their splendor. Wher- ever mankind sees these great types, these glorified images of human nature shining, wherever he sees this treasury of sublime enjoyments progressing, then he recognises it as, and calls it, civilisation.

Two facts, then, are comprised in this great fact : it subsists on two conditions, and shows itself by two symptoms ; the development of social activity, and of individual activity, the progress of society, and the progress of humanity. Wherever the external condition is extended, vivified, and ameliorated, wherever the internal nature of man displays itself with brilliancy and grandeur ; by these two signs, and often in spite of

the profound imperfection of the social state, mankind applauds and proclaims civilisation.

Guizot.

MUSEUM OF NORTHERN ANTIQUITIES, COPENHAGEN.

THERE is perhaps no study more profoundly interesting than the early history of a country, illustrated by antiquities, handed down from remote ages long before events were recorded in written languages. There is something peculiarly attractive in those simple memorials which connect the present with the distant past, even when they are brought before us in isolated examples; but when we find hundreds of them collected together, arranged and classified by the learned archaeologist in such a manner that we can with certainty trace, link by link, the chain which attaches our own generation with races that existed a thousand years before the birth of Christ, a fountain of instruction and pleasure is opened to us of the most agreeable kind.

All European countries possess more or less of these valuable materials for throwing light on the character and habits of their early inhabitants; but to this, one of the smallest kingdoms amongst them, is due the glory of having taken the initiative of collecting, writing, and disentangling, the numerous shreds of antiquity, and of weaving them into a connected fabric, on which is stamped the the records of primeval history.

The antiquities fill ten or twelve rooms of the Christiansborg palace, and are arranged under five heads. The first, which consists of implements and weapons of stone or flint, commences at a date conjectured to be at least a thousand years before the birth of Christ, and terminates five hundred years anterior to that event. This is denominated the "stone age" ... The second ranges from five hundred years before, to about five hundred after the Christian era; and from the circumstance of weapons and other articles of bronze having been generally used during that period, it is called the "bronze age" ... The third, beginning in the sixth, terminates in the tenth century, and is named the "iron age," from that metal having then been in use ... The fourth consists of relics, principally of Christianity, between the tenth and thirteenth centuries; and the fifth extends from the latter date to the reformation.

The contents of the three first divisions have been dug out of the earth, or discovered in ancient tombs of the country. They belong exclusively to the pagan times, and are by far the most interesting portion of the collection.

The first room we entered contained a great variety of objects belonging to the earliest period, consisting of arrow, hammer and spear-heads, axes, knives, chisels, gouges, and fish-hook of flint or stone, neatly executed, and in some instances displaying considerable taste and skill; the more remarkable from the fact of their having necessarily been made with tools of the same material.

The nature of these implements and the substance of which they are composed, at once indicate a people in a savage state, who obtained their subsistence by hunting and fishing; many of the articles bearing the strongest resemblance to those used up to the present day by the rudest of the South Sea Islanders.

Some of the axes have evidently been repaired, for we find them with the cutting edge ground at a different angle from the original surface. They are of various sizes, wedge-shaped, and were probably used as much in war as for other purposes. They must have been attached to wooden handles, in a similar way to that adopted in the New Zealand axes, examples of which hang in the Museum ... These hatchets could scarcely have been adapted to felling large trees, which were doubtless brought down by means of fire applied to the lower part of their trunks, a very common usage amongst savage nations, but they were of great service in splitting wood, and hollowing out the rude canoes used for fishing.

The most important memorials of the stone age are the graves, called Cromlechs, and Giants' Chambers. The former vary much in size and shape, the long cromlechs being generally from sixty to a hundred, but sometimes reaching even four hundred feet in length, by from sixteen to forty feet in breadth, while the circular cromlechs are much smaller. All, however, have the same character, as they appear to have had the same destination... Each cromlech consists of several large flat stones arranged edgewise on a mound of earth, and capped by a huge fragment of rock, often from thirty to forty feet in circumference, thus forming a sepulchral chamber, wherein the bodies of the dead were placed, mostly in a sitting posture, with their backs to the wall.

The giants' chamber differs from the cromlech in being somewhat larger, in having a long passage of stone leading to the interior, and from the whole being covered with a mound of earth forming a tumulus. Some of these tumuli also contain two chambers with separate entrances.

Skeletons of unburnt bodies, implements of stone and flint, amber beads, various ornaments, and earthenware vases, have

been found in all these tombs ; which are not only interesting, as showing the degree of civilisation attained by the people, but from indicating that they possessed ideas of a future state, as they buried by the warrior's side weapons and various articles thought necessary to him in another existence ... This custom is general amongst savage tribes even at the present day, while in all parts of the world nations in an unenlightened and barbarous condition have been found to sacrifice the friends or servants of their deceased chiefs, in order that they might be properly attended on their entrance into the next world. Such might have been the case in Scandinavia, and would at once account satisfactorily for the fact of the cromlechs and giants' chambers containing several skeletons.

The ornaments of the stone period seen in the museum, are of the simplest kind ; the most precious amongst them consisting of pieces of amber pierced, and doubtless worn as beads ; some of these are rough, others formed like hammer-heads or axes.

The people of the "stone age" were not confined to Southern Scandinavia, for cromlechs are found along the north-west and west coasts of Europe, the southern shores of the Baltic, in Ireland and Britain, all having similar contents to those of Denmark. But in Norway and the north of Sweden, this kind of tomb does not exist, although implements and weapons of stone are found in those countries, as well as in Southern Europe, and even in the tumuli of the Mississippi valley in North America ... Some of the implements discovered in the latter, especially the flint knives, bear an exact resemblance to those of Denmark ; but we cannot infer from this circumstance alone, that the same race inhabited these widely separated countries ; for nations the farthest removed from each other, with the same wants, and their faculties in a like state of development, arrive at similar results in their first feeble essays at art, of which the close similarity between the Scandinavian and New Zealand productions in stone afford another striking example. It may, however, be reasonably presumed that the southern coast of the Baltic, Hanover, the north of Holland, England and Ireland, where the cromlechs are found, were inhabited by the same race as that of the stone age in Denmark.

Scott.

THE RED INDIAN.

On quitting the cradle, the American Indian is left nearly naked in the cabin to grow hardy, and learn the use of his limbs. Juvenile sports are the same everywhere; children invent them for themselves. There is no domestic government; the young do as they will. They are never earnestly reprobated, injured, or beaten; a dash of cold water in the face is their heaviest punishment. If they assist in the labors of the household, it is as a pastime, not as a charge. Yet they show respect to the chiefs, and defer with docility to those of their cabin. ... The attachment of savages to their offspring is extreme; and they cannot bear separation from them. From their insufficient and irregular supplies of clothing and food they learn to endure hunger and rigorous seasons; of themselves, they become fleet of foot, and skilful in swimming; their courage is nursed by tales respecting their ancestors, till they burn with a love of glory to be acquired by valor and address ... So soon as the child can grasp the bow and arrow, they are in his hand; and, as there was joy in the wigwam at his birth, and his first cutting of a tooth, so a festival is kept for his earliest success in the chase ... The Indian young man is educated in the school of nature. The influences by which he is surrounded nurse within him the passion for war: as he grows up, he, in his turn, takes up the war-song, of which the echoes never die away on the boundless plains of the west ... He travels the war-path in search of an encounter with an enemy, that he, too, at the great war-dance and feast of his band, may boast of his exploits; may enumerate his gallant deeds by the envied feathers of the war-eagle that decorate his hair; and may keep the record of his wounds by shining marks of vermillion on his skin.

The savages are proud of idleness. At home they do little but cross their arms and sit listlessly; or engage in games of chance, hazarding all their possessions on the result; or meet in council; or sing, and eat, and play, and sleep. The greatest toils of the men are, to perfect the palisades of the forts; to manufacture a boat out of a tree, by means of fire and a stone hatchet; to repair their cabins; to get ready instruments of war or the chase; and to adorn their persons ... Woman is the laborer: woman bears the burden of life. The food that is raised from the earth is the fruit of her industry. With no instrument but a wooden mattock, a shell, or a shoulder-blade of the buffalo, she plants the maize, the beans, and the running vines. She drives the blackbirds from the corn field, breaks

the weeds, and, in due season, gathers the harvest. She pounds the parched corn, dries the buffalo meat, and prepares for winter the store of wild fruits; she brings home the game which her husband has killed; she bears the wood, and draws the water, and spreads the repast.

Famine gives a terrible energy to the brutal part of our nature. A shipwreck will make cannibals of civilised men; a siege changes the refinements of urbanity into excesses at which humanity shudders; a retreating army abandons its wounded. The hunting tribes have the affections of men; but among them, also, extremity of want produces like results. The aged and infirm meet with little tenderness; the hunters, as they roam the wilderness, desert their old men; if provisions fail, the feeble drop down, and are lost, or life is shortened by a blow.

The summer garments of moose and deer skins are painted of many colours; the fairest feathers of the turkey, fastened by threads made from wild hemp and nettle, are curiously wrought in mantles. The claws of the grisly bear form a proud collar for a war-chief; a piece of an enemy's scalp, with a tuft of long hair, painted red, glitter on the stem of their war-pipes; the wing of a red bird, or the beak or plumage of a raven decorate their locks; the skin of a rattlesnake is worn round the arm of their chiefs; the skin of the polecat, bound round the leg, is their order of the garter—emblem of noble daring. A warrior's dress is often a history of his deeds. His skin is also tattooed with figures of animals, of leaves, of flowers, and painted with lively and shining colors.

The acceptance of gifts pacifies the families of those who are at variance. In savage life, which admits no division of labor, and has but the same pursuit for all, the bonds of relationship are widely extended. They hold the bonds of brotherhood so dear, that a brother commonly pays the debt of a deceased brother, and assumes his revenge and his perils. There are no beggars among them; no fatherless children unprovided for. The families that dwell together, hunt together, roam together, fight together, constitute *a tribe*.

The limit of the chief's authority is found in his personal character. The humiliating subordination of one will to another is everywhere unknown ... The Indian chief has no crown, no sceptre, or guards; no outward symbols of supremacy, or means of giving validity to his decrees. The bounds of his authority float with the current of opinion in the tribe: he is not so much obeyed, as followed with the alacrity of free volition; and, therefore, the extent of his power depends on his personal character. There have been chiefs whose com-

manding genius could so overawe and sway the common mind, as to gain for a season an almost absolute rule; while others had little authority, and, if they used menaces, were abandoned.

The affairs of the whole nation are transacted in general council; and, while any one may dissent with impunity, it is so arranged that decisions are unanimous. Their delight is in assembling together, and listening to messengers from other tribes... Seated in a semicircle on the ground, in double or triple rows, with the knees almost meeting the face, the painted and tattooed chiefs adorned with skins and plumes, with the beaks of the red-bird or the claws of the bear, each listener perhaps with a pipe in his mouth, and preserving deep silence; they give solemn attention to the speaker, who, with great action and energy of language, delivers his message; and if his eloquence please, they esteem him as a god. Decorum is never broken: there are never two speakers struggling to anticipate each other; they do not express their spleen by blows; they restrain passionate invective; the debate is never disturbed by an uproar; questions of "order" are unknown.

Bancroft.

THE TEUTON.

THE Teutonic tribes have a national singleness of heart, which contrasts with the Latin races. The German name has a proverbial significance of sincerity and honest meaning. The arts bear testimony to it. The faces of clergy and laity in old sculptures and illuminated missals are charged with earnest belief... Add to this hereditary rectitude, the punctuality and precise dealing which commerce creates, and you have the English truth and credit. The government strictly performs its engagements. The subjects do not understand trifling on its part. When any breach of promise occurred in the old days of prerogative, it was resented by the people as an intolerable grievance. And, in modern times, any slipperiness in the government in political faith, or any repudiation or crookedness in matters of finance, would bring the whole nation to a committee of inquiry and reform... Private men keep their promises, never so trivial. Down goes the flying word on the tablets, and is indelible as Domesday Book.

Beasts that make no truce with man do not break faith with each other. 'Tis said, that the wolf, who makes a *cache* of his prey, and brings his fellows with him to the spot, if, on digging, it is not found, is instantly and unresistingly torn in pieces. ... English veracity seems to result on a sounder animal

structure, as if they could afford it. They are blunt in saying what they think, sparing of promises, and they require plain dealing in others. We will not have to do with a man in a mask. Let us know the truth. Draw a straight line, hit whom and where it will... Alfred, whom the affection of the nation makes the type of their race, is called by his friend, Aser, the *truth-speaker*. Geoffrey, of Monmouth, says of King Aurelius, uncle of Arthur, that "above all things he hated a lie." The Northman Guttorm said to King Olaf, "It is royal work to fulfil royal words" ... To be king of their word is their pride. When they unmask cant they say, "The English of this is," &c.; and to give the lie is the extreme insult. The phrase of the lowest of the people is, "Honor bright;" and their vulgar praise, "His word is as good as his bond." They hate shuffling and equivocation; and the cause is damaged in the public opinion on which any paltering can be fixed ... Even Lord Chesterfield, with his French breeding, when he came to define a gentleman, declared that truth made his distinction: and nothing ever spoken by him would find so hearty a suffrage from his nation. The Duke of Wellington, who had the best right to say so, advised the French General Kellermann, that he might rely on the parole of an English officer ... The English of all classes value themselves on this trait as distinguishing them from the French, who, in the popular belief, are more polite than true. An Englishman understates, avoids the superlative, checks himself in compliments, alleging that in the French language one cannot speak without lying.

At St. George's festival, in Montreal, where I happened to be a guest since my return to America, I observed that the chairman complimented his compatriots by saying, "They confided that wherever they met an Englishman they found a man who would speak the truth." And one cannot think this festival fruitless, if, all over the world, on the 23rd of April, wherever two or three English are found, they meet to encourage each other in the nationality of veracity. *Emerson.*



Biography.



BIOGRAPHY.

COLUMBUS AND HIS DISCOVERIES (1492—1506).

THE enterprise of Columbus, the most memorable enterprise in the history of the world, formed between Europe and America the communication which will never cease. The national idea of an Icelandic historian has, indeed, claimed for his ancestors the glory of having discovered the western hemisphere. It is said they passed from their own island to Greenland, and were driven by adverse winds from Greenland to the shores of Labrador; that the voyage was often repeated; at the coasts of America were extensively explored, and colonies established on the shores of Nova Scotia or Newfoundland. But the story of the colonisation of America by the Northmen rests on narratives, mythological in form and obscure in meaning; ancient, yet not contemporary ... Imagination had conceived the idea that vast inhabited regions lay unexplored in the west; and poets had declared that empires beyond the ocean would one day be revealed to the daring navigator. But Columbus, although with the special view of discovering a shorter route to India by the west, deserves the divided glory of having realised that belief ... During his lifetime he met with no adequate recompense. The self-love of the Spanish monarch was offended at receiving from a reign in his service benefits too vast for requital; and the contemporaries of the great navigator persecuted the merit which they could not adequately reward ... Nor had posterity been mindful to gather into a finished picture the memorials of his career, till the genius of Irving, with candor, liberality, and original research, made a record of his eventful life, and in mild but enduring colors sketched his sombre inflexibility of purpose, his deep religious enthusiasm, and the disinterested magnanimity of his character.

We may learn a lesson of patience from details of his first endeavors—often thwarted but never relaxed—to find the means of accomplishing the dreams of his youth, destined to be realised after successive years of struggle and disappointment. Let me give you a few pictures of the events in the life of this remarkable man from the pen of the writer alluded to:—

When the companions of Columbus beheld the sun go down upon a shoreless horizon, they broke forth into clamorous turbulence. Fortunately, however, the manifestations of neighbouring land were such on the following day as no longer to admit a doubt. Besides a quantity of fresh weeds, such as grow in rivers, they saw a green fish of a kind which keeps about rocks; then a branch of thorn with berries on it, and recently separated from the tree, floated by them; then they picked up a reed, a small board, and, above all, a staff artificially carved ... All gloom and mutiny now gave way to sanguine expectation; and throughout the day each one was eagerly on the watch, in hopes of being the first to discover the long-sought-for land. In the evening, when, according to invariable custom on board the admiral's ship, the mariners had sung the vesper hymn, Columbus made an impressive address to his crew ... He pointed out the goodness of God in thus conducting them, by such soft and favoring breezes, across a tranquil ocean, cheering their hopes continually with fresh signs, increasing as their fears augmented, and thus leading and guiding them to a promised land.

The breeze had been fresh all day, with more sea than usual, and they had made great progress. At sunset they had stood again to the west, and were ploughing the waves at a rapid rate, the Pinta keeping the lead, from her superior sailing ... The greatest animation prevailed throughout the ships; not an eye was closed that night. As the evening darkened, Columbus took his station on the top of the castle or cabin, on the high poop of his vessel ... However he might carry a cheerful and confident countenance during the day, it was to him a time of the most painful anxiety; and now, when he was wrapped from observation by the shades of night, he maintained an intense and unintermitting watch, ranging his eye along the dusky horizon, in search of the most vague indications of land. ... Suddenly, about ten o'clock, he thought he beheld a light glimmering at a distance! Fearing that his eager hopes might deceive him, he called to Pedro, a gentleman of the King's bedchamber, and inquired whether he saw a light in that direction, the latter replied in the affirmative ... Columbus, yet doubtful whether it might not be some delusion of the fancy, called Roderigo Sanchez, and made the same inquiry. By the time the latter had ascended the round-house the light had disappeared. They saw it once or twice afterwards in sudden and passing gleams; as it were a torch in the bark of a fisherman, rising and sinking with the waves; or in the hand of some person on shore, borne up and down as he walked from

house to house... So transient and uncertain were these gleams, that few attached any importance to them; Columbus, however, considered them as certain signs of land, and, moreover, that the land was inhabited.

They continued their course until two in the morning, when a gun from the Pinta gave the joyful signal of land. It was first discovered by a mariner, named Rodrigo de Triano, but the reward was afterwards adjudged to the admiral for having previously perceived the light. The land was now clearly seen about two leagues distant; whereupon they took in sail and lay to, waiting impatiently for the dawn.

The thoughts and feelings of Columbus in this little space of time must have been tumultuous and intense. At length, in spite of every difficulty and danger, he had accomplished his object. The great mystery of the ocean was revealed; his theory, which had been the scoff of sages, was triumphantly established; he had secured to himself a glory which must be as durable as the world itself.

It is difficult, even for the imagination, to conceive the feelings of such a man at the moment of so sublime a discovery. What a bewildering crowd of conjectures must have thronged upon his mind as to the land which lay before him, covered with darkness. That it was fruitful was evident from the vegetables which floated from its shores. He thought, too, that he perceived in the balmy air the fragrance of aromatic groves. The moving light which he had beheld had proved that it was the residence of man... But what were its inhabitants? Were they like those of the other parts of the globe? or were they some strange and monstrous race, such as the imagination in those times was prone to give to all remote and unknown regions? Had he come upon some wild island far in the Indian Sea? or was this the famed Cipango itself, the object of his golden fancies?... A thousand speculations must have swarmed upon him, as with his anxious crews, he waited for the night to pass away, wondering whether the morning light would reveal a savage wilderness or dawn upon spicy groves, and glittering fanes, and gilded cities, and all the splendor of oriental civilisation.

The fame of the discovery of a new world had resounded throughout Spain; and, as the route of Columbus, on his way to the court at Madrid, lay through several of the finest and most populous provinces, his journey appeared like the progress of a sovereign. Wherever he passed, the surrounding

country poured forth its inhabitants, who lined the road, and thronged the villages. In the large towns the streets, windows, and balconies, were filled with eager spectators, who rent the air with acclamations ... His journey was continually impeded by the multitude, pressing to gain a sight of him, and of the Indians, who were regarded with as much admiration as if they had been natives of another planet. It was impossible to satisfy the craving curiosity which assailed himself and his companions at every stage with innumerable questions. Popular rumor, as usual, had exaggerated the truth, and had filled the newly found country with all kinds of wonders.

It was about the middle of April that Columbus arrived at Barcelona, where every preparation had been made to give him a solemn and magnificent reception. The beauty and serenity of the weather, in that genial season and favored climate, contributed to give splendor to this memorable ceremony. As he drew near the place, many of the more youthful courtiers and hidalgos of gallant bearing, together with a vast concourse of the populace, came forth to greet and welcome him.

First were paraded the Indians, painted according to their savage fashion, and decorated with tropical feathers and with their national ornaments of gold; after these were borne various kinds of live parrots, together with stuffed birds, and animals of unknown species, and rare plants, supposed to be of precious qualities; while great care was taken to make a conspicuous display of Indian coronets, bracelets, and other decorations of gold, which might give an idea of the wealth of the newly discovered regions. After these followed Columbus on horseback, surrounded by a brilliant calvcade of Spanish chivalry.

The streets were almost impassable from the countless multitude; the windows and balconies were lined with the fair; the very roofs were covered with spectators. It seemed as if the public eye could not be sated with gazing on these trophies of an unknown world, or on the remarkable man by whom it had been discovered ... There was a sublimity in the event, that mingled a solemn feeling with the public joy. It was looked upon as a vast and signal dispensation of Providence, in reward for the piety of the monarchs; and the majestic and venerable appearance of the discoverer, so different from the youth and buoyancy which are generally expected from roving enterprise, seemed in harmony with the grandeur and dignity of his achievement.

To receive him with suitable pomp and distinction, the sovereigns had ordered their thrones to be placed in public, under a rich canopy of brocade of gold, in a vast and splendid saloon.

Here the king and queen awaited his arrival, seated in state, with the prince Juan beside them, and attended by the dignitaries of their court and the principal nobility of Spain, all impatient to behold the man who had conferred so incalculable a benefit upon the nation.

At length, Columbus entered the hall, surrounded by a brilliant crowd of cavaliers; among whom he was conspicuous for his stately and commanding person, which, with his countenance rendered venerable by his grey hairs, gave him the august appearance of a senator of Rome... A modest smile lighted up his features, showing that he enjoyed the state and glory in which he came; and certainly nothing could be more deeply moving, to a mind inflamed by noble ambition, and conscious of having greatly deserved, than the testimonials of the admiration and gratitude of a nation, or rather of a world. ... As Columbus approached, the sovereigns rose, as if receiving a person of the highest rank. Bending his knees, he requested to kiss their hands; but there was some hesitation on the part of their majesties to permit this act of vassalage. Raising him in the most gracious manner, they ordered him to seat himself in their presence; a rare honor in this proud and punctilious court.

At the request of their majesties, Columbus now gave an account of the most striking events of his voyage, and a description of the islands which he had discovered. He displayed the specimens he had brought of unknown birds and other animals; of rare plants of medicinal and aromatic virtue; of native gold, in dust, in crude masses, or labored into barbaric ornaments; and, above all, the natives of these countries, who were objects of intense and inexhaustible interest; since there is nothing to man so curious as the varieties of his own species. All these he pronounced mere harbingers of greater discoveries he had yet to make, which would add realms of incalculable wealth to the dominions of their majesties, and whole nations of proselytes to the true faith.

The words of Columbus were listened to with profound emotion by the sovereigns. When he had finished they sank on their knees, and raising their clasped hands to heaven, their eyes filled with tears of joy and gratitude, they poured forth thanks and praises to God for so great a providence; all present followed their example; a deep and solemn enthusiasm pervaded that splendid assembly, and prevented all common acclamations of triumph... The anthem of *Te Deum*, chanted by the choir of the royal chapel, with the melodious accompaniments of the instruments, rose up from the midst, in a full

body of sacred harmony, bearing up, as it were, the feelings and thoughts of the auditors to heaven; "so that," says the venerable Las Casas, the historian of the occasion, "it seemed as if, in that hour, they communicated with celestial delights." ... Such was the solemn and pious manner in which the brilliant court of Spain celebrated this sublime event; offering up a grateful tribute of melody and praise; and giving glory to God for the discovery of another world.

When Columbus retired from the royal presence, he was attended to his residence by all the court, and followed by the shouting populace. For many days he was the object of universal curiosity, and wherever he appeared, he was surrounded by an admiring multitude.

Columbus, as governor of San Domingo, the centre for future explorations, was exposed to the envious and jealous aspersions of his enemies at court. Falsely charged with peculation, and suspected of entertaining projects of self-aggrandisement, he was superseded by the infamous Bobadilla. Treated by him with cruel indignity, he was despatched to Spain as a common felon.

The arrival of Columbus, after his third voyage, at Cadiz, a prisoner and in chains, produced almost as great a sensation as his triumphant return from his first voyage. It was one of those striking and obvious facts, which speak to the feelings of the multitude, and preclude the necessity of reflection. No one stopped to inquire into the case. It was sufficient to be told that Columbus was brought home in irons from the world he had discovered ... There was a general burst of indignation in Cadiz, and in the powerful and opulent Seville, which was echoed throughout all Spain. If the ruin of Columbus had been the intention of his enemies, they had defeated their object by their own violence ... One of those reactions took place, so frequent in the public mind when persecution is pushed to an unguarded length. Those of the populace who had recently been loud in their clamor against Columbus, were now as loud in their reprobation of his treatment, and a strong sympathy was expressed, against which it would have been odious for the government to contend.

The tidings of his arrival, and of the ignominious manner in which he had been brought, reached the court at Granada, and filled the halls of the Alhambra with murmurs of astonishment ... Columbus, full of his wrongs, but ignorant how far they had been authorised by the sovereigns, had forborne to write to them directly ... In the course of his voyage, however, he had

penned a long letter to a friend at court, containing a statement of the late transactions of the island, and of the wrongs he had suffered, written with his usual artlessness and energy. Some expressions which burst from him in the warmth of his feelings, are worthy of being noted. "The slanders of worthless men," says he, "have done me more injury than all my services have profited me." Speaking of the misrepresentations to which he was subjected, he observes: "Such is the evil name which I have acquired, that if I were to build hospitals and churches, they would be called dens of robbers" ... After relating, in indignant terms, the conduct of Bobadilla, in seeking testimony respecting his administration from the very men who had rebelled against him, and throwing himself and his brothers in irons, without letting them know the offences with which they were charged, "I have been much aggrieved," he adds, "in that a person should be sent out to investigate my conduct, who knew that if the evidence which he could send home should appear to be of a serious nature, he would remain in the government" ... He complains that, in forming an opinion of his administration, allowances had not been made for the extraordinary difficulties with which he had to contend, and the wild state of the country over which he had to rule. "I was judged," he observes, "as a governor who had been sent to take charge of a well-regulated city, under the dominion of well-established laws, where there was no danger of everything running to disorder and ruin; but I ought to be judged as a captain, sent to subdue a numerous and hostile people, of manners and religion opposite to ours, living not in regular towns, but in forests and mountains ... It ought to be considered that I have brought all these under subjection to their majesties, giving them dominion over another world, by which Spain, heretofore poor, has suddenly become rich ... Whatever errors I may have fallen into, they were not with an evil intention; and I believe their majesties will credit what I say. I have known them to be merciful to those who have wilfully done them disservice; I am convinced that they will have still more indulgence for me, who have erred innocently, or by compulsion, as they will hereafter be more fully informed; and I trust they will consider my great services, the advantages of which are every day more and more apparent."

When this letter was read to the noble-minded Isabella, and she found how grossly Columbus had been wronged and the royal authority abused, her heart was filled with mingled sympathy and indignation.

However Ferdinand might have secretly felt disposed against Columbus, the momentary tide of public feeling was not to be

resisted. He joined with his generous queen in her reprobation of the treatment of the admiral, and both sovereigns hastened to give evidence to the world, that his imprisonment had been without their authority, and contrary to their wishes... Without waiting to receive any documents that might arrive from Bobadilla, they sent orders to Cadiz that the prisoners should be instantly set at liberty, and treated with all distinction... They wrote a letter to Columbus, couched in terms of gratitude and affection, expressing their grief at all that he had suffered, and inviting him to court. They ordered at the same time, that two thousand ducats should be advanced to defray his expenses.

The loyal heart of Columbus was again cheered by this declaration of his sovereigns. He felt conscious of his integrity, and anticipated an immediate restitution of all his rights and dignities. He appeared at court in Granada on the 17th of December, not as a man ruined and disgraced, but richly dressed, and attended by an honorable retinue. He was received by the sovereigns with unqualified favor and distinction. ... When the queen beheld this venerable man approach, and thought on all he had deserved and all he had suffered, she was moved to tears. Columbus had borne up firmly against the rude conflicts of the world; he had endured with lofty scorn the injuries and insults of ignoble men; but he possessed strong and quick sensibility... When he found himself thus kindly received by his sovereigns, and beheld tears in the benign eyes of Isabella, his long-suppressed feelings burst forth: he threw himself on his knees, and for some time could not utter a word for the violence of his tears and sabbings.

But the death of Isabella, in 1505, was a fatal blow to the fortunes of Columbus. He was left to the cold indifference and prejudiced mind of King Ferdinand. Lingering yet a few months in vain suspense, he died unrequited—a victim to a terrible disease, and to the still more terrible malice of his enemies.

Columbus was a man of great inventive genius, the operations of his mind burst forth with that irresistible force which characterises intellect of such an order. His ambition was lofty and noble, inspiring him with high thoughts, and an anxiety to distinguish himself by great achievements. He aimed at dignity and wealth in the same elevated spirit with which he sought renown; they were to rise from the territories he should discover, and be commensurate in importance.

His conduct was characterised by the grandeur of his views,

and the magnanimity of his spirit. Instead of ravaging the newly found countries, like many of his contemporary discoverers, who were intent only on immediate gain, he regarded them with the eyes of a legislator ; he sought to colonise and cultivate them, to civilise the natives, to build cities, introduce the useful arts, subject everything to the control of law, order, and religion, and thus to found regular and prosperous empires. That he failed in this, was the fault of the dissolute rabble which it was his misfortune to command, with whom all law was tyranny, and all order oppression.

He was naturally irascible and impetuous, and keenly sensible to injury and injustice ; yet the quickness of his temper was counteracted by the generosity and benevolence of his heart. The magnanimity of his nature shone forth through all the troubles of his stormy career ... Though continually outraged in his dignity, braved in his authority, foiled in his plans, and endangered in his person, by the seditions of turbulent and worthless men, and that too, at times when suffering under anguish of body and anxiety of mind, enough to exasperate the most patient, yet he restrained his valiant and indignant spirit, and brought himself to forbear, and reason, and even to supplicate ... Nor can the reader of the story of his eventful life fail to notice how free he was from all feeling of revenge, how ready to forgive and forget, on the least sign of repentance and stonement. He has been exalted for his skill in controlling others, but far greater praise is due to him for the firmness he displayed in governing himself.

His piety was genuine and fervent. Religion mingled with the whole course of his thoughts and actions, and shone forth in his most private and unstudied writings. The religion thus deeply seated in his soul, diffused a sober dignity and a benign composure over his whole deportment ; his very language was pure and guarded, and free from all gross or irreverent expressions.

A peculiar trait in his rich and varied character remains to be noticed ; namely, that ardent and enthusiastic imagination, which threw a magnificence over his whole course of thought. A poetical temperament is discernible throughout all his writings, and in all his actions. We see it in all his descriptions of the beauties of the wild lands he was discovering, in the enthusiasm with which he extolled the blandness of the temperature, the purity of the atmosphere, the fragrance of the air, "full of dew and sweetness," the verdure of the forests, the grandeur of the mountains, and the crystal purity of the running

streams. It spread a glorious and golden world around him, and tinged everything with its own gorgeous colors.

He was decidedly a visionary, but a visionary of an uncommon kind, and successful in his dreams. The manner in which his ardent imagination and mercurial nature were controlled by a powerful judgment, and directed by an acute sagacity, is the most extraordinary feature in his character. Thus governed, his imagination, instead of exhausting itself in idle flights, lent aid to his judgment, and enabled him to form conclusions at which common minds could never have arrived, nay, which they could not conceive, when pointed out ... To his intellectual vision it was given to read the signs of the times, and to trace in the conjectures and reveries of past ages, the indications of an unknown world. "His soul," observes a Spanish writer, "was superior to the age in which he lived. For him was reserved the great enterprise of traversing a sea which had given rise to so many fables, and of deciphering the mystery of his age."

With all the visionary fervor of his imagination, its fondest dreams fell short of the reality. He died in ignorance of the real grandeur of his discovery. Until his last breath, he entertained the idea that he had merely opened a new way to the old resorts of opulent commerce, and had discovered some of the wild regions of the east ... What visions of glory would have broken upon his mind, could he have known that he had indeed discovered a new continent, equal to the whole world in magnitude, and separated by two vast oceans, from all the earth hitherto known by civilised man ! How would his magnanimous spirit have been consoled amid the afflictions of age and the cares of penury, the neglect of a fickle public and the injustice of an ungrateful king, could he have anticipated the splendid empires which would arise in the beautiful world he had discovered ; and the nations, and tongues, and languages, which were to fill its lands with his renown, and to revere and bless his name to the latest posterity !

W. Irving.

BENJAMIN FRANKLIN ;

THE PRINTER, PHILOSOPHER, AND STATESMAN.

WILLING to escape from a town where "good people" pointed with horror to his freedom ; indignant, also, at the tyranny of a brother who, as a passionate master, often beat his apprentice,

Benjamin Franklin, when but seventeen years old, sailed clandestinely for New York, and, finding there no employment, crossed to Amboy; went on foot to Delaware; for want of a wind, rowed in a boat from Burlington to Philadelphia; and, bearing marks of his labor at the oar, weary, hungry, having for his whole stock of cash a single dollar, the runaway apprentice, greatest of the sons of New England of that generation, the humble pupil of the free school of Boston, rich in the boundless hope of youth and the unconscious power of genius, which modesty adorned, stepped on shore to seek food, occupation, shelter, and fortune.

On the foundation of sobriety, frugality, and industry, the young journeyman built his future fame; and he soon came to have a printing office of his own. Toiling early and late with his hands, he set types and worked at the press; with his own hands would trundle to the office, in a wheelbarrow, the reams which he was to use. His ingenuity was such, he could form letters, make types and woodcuts, and engrave vignettes in copper.

The Assembly of Pennsylvania respected his merit, and chose him its printer. He planned a newspaper, and when he became its proprietor and editor, he fearlessly defended absolute freedom of thought and speech, and the inalienable power of the people ... Desirous of advancing education, he proposed improvement in the school of Philadelphia. He invented the system of subscription libraries, and laid the foundation of one that was long the most considerable library in America; he suggested the establishment of an academy, which has ripened into a university; he saw the benefit of concert in the pursuit of science, and gathered a philosophical society for its advancement... The intelligent and highly-cultivated Logan bore testimony to his merits before they had burst upon the world:—"Our most ingenious printer has the clearest understanding, with extreme modesty. He is certainly an extraordinary man, of a singularly good judgment, but of equal modesty; excellent, yet humble. Do not imagine that I over-do in my character of Benjamin Franklin, for I am rather short in it."

When the scientific world began to investigate the wonders of electricity, Franklin excelled all observers in the marvellous simplicity and lucid exposition of his experiments, and in the admirable sagacity with which he elicited from them the laws which they illustrated. It was he who first suggested the explanation of thunder gusts and the northern lights on electrical principles; and, in the summer of 1752, going out into the fields, with no instrument but a kite, no companion but his

son, established his theory, by obtaining a line of connection with a thunder cloud ... Nor did he cease till he had made the lightning a household pastime, taught his family to catch the subtle fluid in its inconceivably rapid leaps between the earth and the sky, and compelled it to give warning of its passage by the harmless ringing of bells.

Loving truth, without prejudice and without bias, he discerned intuitively the identity of the laws of nature with those of which humanity is conscious; so that his mind was like a mirror, in which the universe, as it reflected itself, revealed her laws. He was free from mysticism, even to a fault. His morality, repudiating ascetic severities, and the system which enjoins them, was indulgent to appetites of which he abhorred the sway ... But his affections were of a calm intensity: in all his career, the love of man gained the mastery over personal interest. He had not the imagination which inspires the bard or kindles the orator, but he was distinguished by an exquisite propriety; parsimonious of ornament, he gave ease of expression and graceful simplicity, even to his most careless writings.

In life, also, his tastes were delicate. Indifferent to the pleasures of the table, he relished the delights of music and harmony, of which he enlarged the instruments ... His blandness of temper, his modesty, the benignity of his manners, made him the favorite of intelligent society; and with healthy cheerfulness, he derived pleasure from books, from philosophy, from conversation, now calmly administering consolation to the sorrower, now indulging in the expression of light-hearted gaiety ... In his intercourse, the universality of his perceptions bore, perhaps, the character of humor; but while he clearly discerned the contrast between the grandeur of the universe, and the feebleness of man, a serene benevolence saved him from contempt of his race or from disgust at toils.

To superficial observers, he might have seemed as an alien from speculative truth, limiting himself to the world of the senses; and yet, in study, and among men, his mind always sought, with unaffected simplicity, to discover and apply the general principles by which nature and affairs are controlled; now deducing from the theory of caloric improvement in fire-places and lanterns, and now advancing human freedom by firm inductions from the inalienable rights of man.

Never professing enthusiasm, never making a parade of sentiment, his practical wisdom was sometimes mistaken for the offspring of selfish prudence; yet his hope was steadfast, like that hope which rests on the Rock of Ages, and his conduct

was as unerring as though the light that led him was a light from heaven ... He never anticipated action by theories of self-sacrificing virtue, and yet, in the moments of intense activity he, from the highest abodes of ideal truth, brought down and applied to the affairs of life the sublimest principles of goodness, as noiselessly and unostentatiously as became the man who, with a kite and silken string, drew the lightning from the skies.

Bancroft.

JOHN HOWARD; THE PHILANTHROPIST.

THE name of John Howard stands in England for perfect benevolence. When the public instructor, speaking either from the pulpit or through the press, desires to personify the purest sympathy for human suffering, that name at once occurs to him. The life of Howard is sublime, because it presents physical weakness overcoming mountains in the pursuit of an end recommended by duty ... It is difficult to gather from all that remains to us of Howard's unparalleled career that he was either susceptible by nature, or romantic from education and early habit. Poetry had never beguiled him, or fancy slumbered in his mind. Measure him by the vulgar standard, and all the elements of heroism are missing in his composition. Judge him in his own peculiar light, and you may search the annals of heroism in vain for one more illustrious than he.

John Howard was still a grocer's apprentice when his father died, leaving him at the age of seventeen, heir to a considerable estate. The boy was already a man in gravity and thought. Purchasing his freedom from his masters, he at once set out for France and Italy in search of health and knowledge, and, returning home after the absence of a year or two, took up his residence as an invalid, at Stoke Newington, near London.

He could not, at this period, have been twenty years of age, but he was already master of his mind and body. Howard was the son of sickness and misfortune: both partook of his career from his cradle to the grave. His trials, and they were many, compelled him to seek refuge in piety: piety bade him go forth and struggle for mankind ... In 1773 he was nominated to the office of sheriff of Bedford. To be appointed to a duty was with Howard to incur an obligation to fulfil it. During the trials of prisoners he sat in court, and listened attentively to the proceedings. When the trials were over he visited and inspected the prison. The hideous glare that met him in the

felon's cell struck his soul with horror, and revealed to him at once the nature of his mission ... The dream of life was at an end; its action had begun. Howard set about the task of rescuing England from the shame and disgrace that attended her blind and brutal punishment of malefactors. The effort was tremendous; so was the penalty; but the success surpassed both.

It is difficult for us to realise the gigantic nature of the undertaking. The problem of our own day is the punishment of public offenders; but its solution is light and easy compared with the labor that confronted Howard on the threshold of his extraordinary crusade ... We know at least the nature of the sad material with which we have to deal. We have separated and classified the corrupt mass, and rendered it fitting to receive salutary and corrective treatment whenever enlightenment shall have fixed upon the process. We have not removed the guilty from the pale of our sympathies, and given them up to wilful torture and abominable neglect. We remember that criminals are men, and that the murderer who forfeits his life to society has still a soul; it may be, to be pardoned and redeemed of heaven ... A century ago, and these things were forgotten; if, indeed, they had ever been known. A more ghastly exhibition than the prison of the last century the mind cannot conceive; the most innocent and unfortunate debtor was thrust into the hole with the most guilty and hardened of cut-throats, and shared the worst fate of the two, if he had no means to bribe his jailor into human charity. Swearing, blaspheming, and gaming were the habitual practices of the keepers and the kept; drunkenness was no vice; religious worship was unknown in a region which seemed cut off from civilisation and made over to fiends to govern in the true spirit of Beelzebub. There was corruption from the first official to the meanest jailor, and more crime within the precincts of the gaol than without. Old criminals corrupted new comers; the governors and their precious crews corrupted all.

From one end of England to the other, from county to county, and from town to town, did Howard travel, in order to drag forth the disgusting mysteries of the British prison-house. The first ray of light that burst upon prison gloom was the presence of this Christian man. His informants were his eyes and ears ... Of all that he heard and saw he made an unperishable note, and whilst he undertook to see justice done to criminals whom he could not otherwise help, he gave freedom in every city to as many as a pecuniary contribution could

supply with the liberty of which, guiltless of all crime, they had been wantonly robbed.

The fruit of his first great labor was not slow to come. The House of Commons resolved itself into a committee in order to ascertain from the philanthropist, who was called to the bar, the actual state of the case. We may conclude that the language of a man in whose stern presence kings were said to quail, and whose indignant soul was overflowing with the wrong it knew, was, if not flattering to Parliament, highly useful for future legislation. The thanks of the legislature were publicly given at the close of the evidence. ... In the course of it a characteristic question was addressed to him. A member, surprised at the extent and minuteness of his inspections, inquired at whose expense he travelled. "Howard," says a friend who knew him well, "was almost choked before he could reply." *Times.*

ELIZABETH FRY; THE OUTCAST'S FRIEND.

PENNED up in dark and loathsome dungeons, and immured within walls, loftier and thicker, and more securely guarded than the dens of wild beasts, there dwelt, in the world of London, a world, outlawed from the light of God's grace, and banished from the sphere of human sympathy. Down in the grim, black cells of Newgate, revelling in filth and physical misery, like unto that of caged beasts, there lived, from day to day, and night upon night, hundreds of human beings, uncared for, unheeded, and unpitied ... The judge, with wig and gown, had sat upon the legal bench, and had issued the imperative mandate of "Take the criminals away;" and they had been taken away, and shut up in an atmosphere of vice and misery, which was sufficient to have dragged down the purest soul into the whirlpool of perdition, and to have blighted for ever the healthiest moral nature ... In Newgate, that terrific purlieu of prisons, whose very name is enough to evoke nightmare, and at the sound of which we involuntarily shudder, in Newgate, constructed for the accommodation of 480 prisoners, the progress of vice and magisterial supineness had allowed 800, and even 1200 prisoners to associate. Huddled together by an indiscriminating jurisprudence, 300 women, some under sentence of death, and others untried, were allowed every facility for the exercise of those vices which had made them outcasts from society, and almost outlaws from heaven.

The two wards and two cells, at one time appropriated to three hundred female prisoners, were those afterwards reserved for the untried, and even for this purpose they were found to be insufficient.

To these cells were the friends and relatives of the prisoners admitted, and here, during all hours of the day, the very demons seemed to be holding jubilee. The foul, loathsome imprecation and oath mingled their moral miasma with the disgusting effluvia emitted by the noisome cells. Drunkenness was permitted to hold the cup of delirium to the lips of the blear-eyed thief, and to inspire with inhuman levity the breast of the murderer.

Undeterred by the representations of the functionaries, and the timidity of her woman's heart, Elizabeth Fry adventured amongst these three hundred denaturalised women. She found them washing, cooking, drinking, gambling, cursing, and hurling imprecations at one another, and at their children, who were allowed to dwell with them. Here lay one group, upon dirty, filthy straw, imperfectly covered with coarse and disgusting mats; and there sat another, devouring with savage avidity some alimentary garbage; and, as if to test the powers of her moral endurance, and open to her at once the black book of human degradation and misery, she beheld two women in the act of stripping a dead child, in order to enrobe, with its scanty habiliments, a living one.

This was Newgate in 1812, a vivid picture of the enlightened mind of England, in relation to criminal law; and a terrible commentary upon that species of jurisprudence which abandons the soul of the criminal, when society has secured its own goods and chattels by the chaining of his body. This is, however, but a faint rescript of the picture which Elizabeth Fry drew, upon coming forth from this horrid den; for, after having exhausted her powers of description in the recital, she exclaims, in despair, "All I tell thee is but a faint picture of the reality; the filth, the closeness of the rooms, the ferocious manners and expressions of the women towards each other, and the abandoned wickedness which everything bespoke, are quite indescribable."

In 1816, she returned to behold in what respect the prison had progressed, as had been represented to her by the gaol authorities. She found that a decided improvement had been made with regard to the accommodation of the female prisoners, and that some attention was paid to their physical comfort; but still the moral blight was allowed to operate unchecked. The women were begging from the visitors of the gaol, and

brawling and struggling with one another for the pittance thus acquired.

Mrs. Fry determined to commence a crusade against this state of things in Newgate, and her initiatory undertaking was an educational one.

The first day passed, and the teachers almost doubted the reality of the respectful and attentive demeanor which they had witnessed; their sense of duty became reanimated with hope, and they went back again with joy to their labor. Day by day the work prospered, notwithstanding many discouraging remarks. "The idea is visionary," said the friends of Elizabeth Fry; "the attempt will be vain and futile." "The idea shall become a fact," replied the heroic woman, "and the attempt will be consummated."

When the plans and machinery requisite for the establishment of a prison industrial school, under twelve voluntary assistants, had been completed, Mrs. Fry invited the sheriffs and governor to assist in the inauguration of her seminary; and nearly one hundred women were presented to them, who solemnly pledged themselves to observe, with the strictest fidelity, all the regulations proposed by Mrs. Fry for their observance ... A code of laws was drawn up, prohibiting, or rather discarding, the vices which had so extensively prevailed; and each prisoner being invited to subscribe these regulations, gave to them the moral authority of voluntary and self-imposed laws. After a month's probation, the corporation of London was invited to behold the power of the new idea, and to recognise a partial revival of the obsolete, but all-powerful principle of love.

The Lord Mayor, together with the sheriffs and several aldermen, answered the invitation, and their surprise on witnessing the change was scarcely greater than their admiration. Those whom coercion had stricken down to a deeper debasement, and whom neglect had precipitated to a darker state of pollution, were assembled under the new *régime* ... A member of the working committee, in accordance with the regular practice, read a chapter of the Bible, and then the prisoners proceeded to their usual employments. Angry declamation, licentious disputation, the filth which had lent a deeper debasement to their fallen condition, and the bold and presumptuous deportment of shamelessness had gone away; and now were to be observed the attentive ear, the diligent hand, the peace-lighted visage, and the smile of hope ... A month ago, and they sickened in their very presence; to-day, they felt that they beheld sisters, reclaimed from utter darkness to the world of hope and promise.

So highly delighted were the magistrates with the results of this experiment, that they incorporated the industrial laws with the older statutes of Newgate, conferred upon the ladies' committee certain discretionary powers, and undertook to assist in the support of the matron.

For a year the committee continued their benevolent exertions, and established to a demonstration the enlightened and practical character of their plans. Newgate ceased to be the rendezvous of the vicious, the national tap-room provided for the use of brigands, the school of thieves and bravoes, and the resort of fortune-tellers.



WILLIAM COBBETT; THE CHAMPION OF THE PRESS.

IN the spring of the year 1762, in a small cottage in the town of Farnham, Surrey, was born William Cobbett, one of the most remarkable self-taught men of whom England can boast. His father was a farmer: though he had received no very brilliant education, he was learned for a man in his rank of life. When a little boy, he drove the plough for two-pence a day; and these, his earnings, were appropriated to the expenses of an evening school ... He understood land-surveying well, and was often chosen to draw the plans of disputed territory; in short, he had the reputation of possessing experience and understanding, which never fails in England to give a man in a country place some little weight with his neighbours. He was honest, industrious, and frugal; it was not, therefore, wonderful that he should be situated in a good farm, and happy in a wife of his own rank, like him beloved and respected.

“A father like ours,” says William, “it will be readily supposed, did not suffer us to eat the bread of idleness. I do not remember the time when I did not earn my living. My first occupation was driving the small birds from the turnip-seed, and the rooks from the pease ... My next employment was weeding wheat, and leading a single horse at harrowing barley. Hoeing pease followed; and hence I arrived at the honor of joining the reapers in harvest, driving the team, and holding the plough. We were all of us strong and laborious; and my father used to boast that he had four boys, the eldest of whom was but fifteen years old, who did as much work as any three men in the parish of Farnham. Honest pride, and happy days! ... I have some faint recollection of going to school

to an old woman, who, I believe, did not succeed in teaching me my letters. In the winter evenings my father taught us all to read and write, and gave us a pretty tolerable knowledge of arithmetic; grammar he did not perfectly understand himself, and therefore his endeavors to teach us that necessarily failed; for, though he thought he understood it, and though he made us get the rules by heart, we learned nothing at all of the principles.

“From my very infancy, from the age of six years, when I climbed up the side of a steep sand-rock, and there scooped me out a plot four feet square to make me a garden, and the soil for which I carried up in the bosom of my little blue smock-frock or hunting-shirt, I have never lost one particle of my passion for these healthy and rational and heart-cheering pursuits, in which every day presents something new, in which the spirits are never suffered to flag, and in which industry, skill, and care, are sure to meet with their due reward. I have never, for any eight months together, during my whole life, been without a garden.

“At eleven years of age, my employment was clipping box-edgings and weeding beds of flowers in the garden of the Bishop of Winchester, at the castle of Farnham. I had always been fond of beautiful gardens; and a gardener, who had just come from the king’s gardens at Kew, gave such a description of them as made me instantly resolve to work in these gardens. ... The next morning, without saying a word to any one, off I set, with no clothes except those upon my back, and with thirteen half-pence in my pocket. I found that I must go to Richmond, and I accordingly went from place to place inquiring my way thither. A long day — it was in June — brought me to Richmond in the afternoon ... Two pennyworth of bread and cheese, and a pennyworth of small-beer, which I had on the road, and a half-penny which I had lost somehow or other, left threepence in my pocket. With this for my whole fortune, I was trudging through Richmond in my blue smock-frock and my red garters tied under my knees, when, staring about me, my eye fell upon a little book in a bookseller’s window, on the outside of which was written: ‘Tale of a Tub; price 3d.’ ... The title was so odd, that my curiosity was excited. I had the threepence, but then I could have no supper. In I went and got the little book, which I was so impatient to read, that I got over into a field at the upper corner of Kew Gardens, where there stood a haystack; on the shady side of this I sat down to read. The book was so different from anything that I had read before, it was something so new to my mind, that

though I could not at all understand some of it, it delighted me beyond description; and it produced what I have always considered a birth of intellect ... I read on till it was dark, without any thought about supper or bed. When I could see no longer, I put my little book in my pocket, and tumbled down by the side of the stack, where I slept till the birds in Kew Gardens awaked me in the morning, when off I started to Kew, reading my little book ... The singularity of my dress, the simplicity of my manner, my confident and lively air, and, doubtless, his own compassion besides, induced the gardener, who was a Scotchman, to give me victuals, find me a lodgings, and set me to work."

Cobbett subsequently spent some time in a lawyer's office, but so great a distaste had he for the drudgery of his occupation, that he quitted it, and enlisted in the army. The colonel of the regiment showed him great kindness, and gave him supernumerary duties in the way of keeping accounts. Mr. Cobbett continues: —

“ Being totally ignorant of the rules of grammar, I necessarily made many mistakes in copying; because no one can copy letter by letter, nor even word by word. The colonel saw my deficiency, and strongly recommended study. He enforced his advice with a sort of injunction, and with a promise of reward in case of success. I procured me a grammar, and applied myself to the study of it with unceasing assiduity, and not without some profit; for though it was a considerable time before I fully comprehended all that I read, still I read and studied with such unremitting attention, that at last I could write without falling into any very gross errors ... The pains I took cannot be described. I wrote the whole grammar out two or three times. I got it by heart. I repeated it every morning and every evening, and when on guard. I imposed on myself the task of saying it all over once every time I was posted sentinel ... To this exercise of my memory I ascribe the retentiveness of which I have since found it capable; and to the success with which it was attended, I ascribe the perseverance that has led to the acquirement of the little learning of which I am master.”

His steadiness and regularity soon led to promotion. In a very short time he was made corporal — no great advance it may be thought; but to him, at that stage of his progress, a most notable event, seeing that it raised his small income “a clear twopence per diem.” ... A few months after his enlist-

ment, the detachment to which he belonged sailed from Gravesend for Halifax, Nova Scotia, where he joined his regiment, and from which he proceeded with it to St. John's and New Brunswick shortly afterwards ... By the end of his third year in the army, he was promoted to the rank of sergeant-major, over the heads of thirty sergeants ; and this promotion appears to have been mainly owing to the excellent character he had acquired for early rising, and extraordinary attention to the duties of his profession.

At the end of four years he came home, got his discharge, and married an excellent woman. After spending six months in France, he once more turned his thoughts to America. He landed at New York in the month of October without any very clear notion as to how he was to earn his living.

Cobbett was not the man to despond however. With the knowledge of French which he had acquired, and his mastery of English grammar, he deemed himself sufficiently qualified to offer his services to Frenchmen as a teacher of English, and accordingly he took up his abode in Philadelphia with the intention of earning his bread by that means. " And never in my whole life," says he, " did I live in a house so clean, in such trim order ; and never have I eaten or drunk, or slept or dressed, in a manner so perfectly to my taste as I did then. ... I had a great deal of business to attend to, that took me a great part of the day from home ; but whenever I could spare a minute from business, the child was in my arms. I rendered the mother's labor as light as I could ; any bit of food satisfied me ... When watching was necessary, we shared it between us ; that famous grammar for teaching French people English was written by me, in hours not employed in business, and in great part during my share of the night-watchings over a sick, and then only child, who, after lingering many months, died in my arms. This was the way that we went on : this was the way that we began our married life."

It was in the summer of 1794, a year and a half after he landed in the United States, that William Cobbett commenced his career as a political writer, and from that time till his death the pen was seldom out of his hand ... He was then in his thirty-third year, had seen a good deal of the world, and had witnessed the volcanic outburst of the French Revolution, which must have made a deep and lasting impression upon such a mind as his. That strong love of order, and firm sense of duty, which he always preserved ; his warm attachment to his native land and all its institutions, inspired his pen.

The fame which Cobbett acquired as an anonymous author,

though quite enough for any ordinary man, was not enough to satisfy him. With his indomitable pugnacity and inordinate self-esteem, he could not bear to remain in the background much longer, and therefore he resolved to commence business as a bookseller, and come forward openly as the publisher of his own works: a step to which he was doubtless all the more strongly tempted by the knowledge that his pamphlets sold exceedingly well, and that he had not received so large a share of the profits as he fancied he ought to have.

Soon after he had opened his shop, he commenced a daily newspaper, under the title of "Porcupine's Gazette," in which he carried on the war against French republicanism and American democracy with unrelenting hostility.

Considering the amount of personal feeling with which Cobbett was inspired in almost all his writings, it was natural to expect that he would, sooner or later, come under the lash of the law. He was twice prosecuted for libel during his residence in America, but on only one occasion was he found guilty, and that verdict turned his eyes once more towards his native land.

On the first of June, 1800, Mr. Cobbett sailed from New York for England, after publishing a highly characteristic farewell address to the people of the United States, in the Philadelphia papers ... No sooner had he landed in England, than he began to make preparations for the publication of a daily newspaper.

The first number of the *Weekly Political Register*, with which Cobbett's fame as a writer is so intimately associated, appeared in January 1802, from which time up till 1835, the year of his death, that faithful record of his delightful egotism, his extreme opinionativeness, his matchless invective against all public offenders, and his numberless schemes for putting public affairs in perfect order, was kept up to the last, with unabated vigor, by the marvellous force of his single pen. News and dull official documents were thrust aside to make room for the sparkling, racy, and everwelcome letters from his own pen on all the engrossing topics of the day ... In his style he has been compared to Swift, to Defoe, and sometimes to Franklin: but, along with much of the circumstantial, graphic, narration-talent of Defoe, the charming simplicity and homely wisdom of Franklin, the idiomatic terseness and humor of Swift, there is an abounding heartiness and a garrulity in most of his writings,

which stamps them with a special charm, for which we might search in vain through the whole of our ablest political writers.

When Cobbett returned from America, he was an ultra Tory, and he continued to support ministers for the first two or three years of his journalism with the most enthusiastic zeal and devotion. In his *Register*, however, he very soon began to show a spirit of independence in his remarks on public affairs, which could not fail to sever his connection with the Church-and-king party, by whom he had been received with open arms when he landed in England.

For the freedom of his remarks he incurred a sentence of libel, and was committed to Newgate prison ... In July, 1812, he was again set at liberty with the character of a martyr in the cause of freedom, and the reputation of being the ablest and most daring champion of the people's cause. But his imprisonment, and the fine of 1000*l.*, which he was obliged to pay for the freedom of his remarks on flogging, gave a serious shock to his circumstances, and ultimately tended in no small degree to land him in those pecuniary embarrassments which caused him again to leave the country for America in 1817.

Cobbett remained in America about two years and a half, during which time he kept up his *Registers* regularly, showing up the "sons and daughters of corruption" as fearlessly as ever. In addition to his literary labors, he took a farm, where he sustained a very serious loss of property by a fire which consumed his dwelling-house and the greater part of his farming stock ... This blow seems to have made him think of returning home once more, now that England seemed as if it would weather the storm. Accordingly, he left New York in October, 1819, and arrived at Liverpool on the 20th of November.

Soon after his return from a tour in Scotland, the first general election under the Reform Bill took place, when Mr. Cobbett, who had been brought forward as a candidate both at Manchester and Oldham, was returned for the latter borough by a majority of four to one over his opponents.

The friends and admirers of Mr. Cobbett, who had been so anxious to see him in parliament, had now obtained their wish. He was now a portion of the "collective wisdom;" nor was it long before he took occasion to give the House a sample of his eloquence. In the debate on the choice of a speaker, on the 31st of January, 1833, he delivered his first parliament-

ary speech, which excited no small amount of good-humored merriment, by the homely, colloquial style in which it was couched, not less than by the originality of his remarks.

In spite of his temperate habits, his naturally robust health gave way under his exhausting duties. With a few fluctuations, he lingered for a short time, during which he recovered so far as to be able to talk in the most sprightly manner upon politics and farming, and to express a wish for "four days' rain for the Cobbett corn and the root crops."

On the day previous to his death, he could not rest in the house, but insisted on being carried round the farm. The strong man, who had hardly ever known what illness was, seemed as if he would set disease at defiance to the very last. That night he grew more and more feeble—the journey round the farm had been the last flicker in the socket. About one o'clock on Thursday morning, the 18th of June, 1835, William Cobbett expired, in the seventy-fourth year of his age.

On the 27th of June, the funeral took place from Normandy Farm. By the time it had reached Farnham, it was swelled by thousands of laborers in their smock frocks and straw hats, who followed the procession to the churchyard, and there the mortal remains of one of England's heroes were deposited beside those of his humble ancestors.

Chambers' Misc.



GIFFORD ; THE SELF-TAUGHT SCHOLAR.

I WAS not quite thirteen when my widowed mother died ; my little brother was hardly two ; and we had not a relation nor a friend in the world. Everything that was left was seized by a person of the name of Carlile, for money advanced to my mother. It may be supposed that I could not dispute the justice of his claims ; and, as no one else interfered, he was suffered to do as he liked. My little brother was sent to the alms-house, whither his nurse followed him out of pure affection ; and I was taken to the house of the person I have just mentioned, who was also my godfather.

Respect for the opinion of the town induced him to send me again to school, where I was more diligent than before, and more successful. I grew fond of arithmetic, and my master began to distinguish me ; but these golden days were over in less than three months. Carlile sickened at the expense ; and as the people were now indifferent to my fate, he looked round for an opportunity of ridding himself of a useless charge.

My godfather had humble views for me, and I had little heart to resist anything. He proposed to send me on board one of the Torbay fishing-boats; I ventured, however, to remonstrate against this, and the matter was compromised by my consenting to go on board a coaster. A coaster was speedily found for me at Brixham, and thither I went when little more than thirteen.

My master, whose name was Full, though a gross and ignorant, was not an ill-natured man, at least, not to me; and my mistress used me with unvarying kindness, moved perhaps by my weakness and tender years. In return I did what I could to requite her, and my good-will was not overlooked ... Our vessel was not very large, nor our crew very numerous. On ordinary occasions, such as short trips to Dartmouth, Plymouth, &c., it consisted only of my master, an apprentice nearly out of his time, and myself: when we had to go farther, to Portsmouth, for example, an additional hand was hired for the voyage... In this vessel "The Two Brothers," I continued nearly a twelvemonth; and here I got acquainted with nautical terms, and contracted a love for the sea, which a lapse of thirty years has but little diminished.

It will be easily conceived that my life was a life of hardship. I was not only a "ship-boy on the high and giddy mast," but also in the cabin, where every menial office fell to my lot; yet, if I was restless and discontented, I can safely say it was not so much on account of this, as of my being precluded from all possibility of reading; as my master did not possess, nor do I recollect seeing during the whole time of my abode with him, a single book of any description, except the "Coasting Pilot." ... As my lot seemed to be cast, however, I was not negligent in seeking such information as promised to be useful; and I therefore frequented, at my leisure hours, such vessels as dropped into Torbay.

On Christmas Day (1770) I was surprised by a message from my godfather, saying that he had sent a man and horse to bring me to Ashburton, and desiring me to set out without delay. My master, as well as myself, supposed it was to spend the holidays there, and he therefore made no objection to my going. We were, however, both mistaken.

Since I had lived at Brixham I had broken off all connection with Ashburton. I had no relation there but my poor brother, who was yet too young for any kind of correspondence; and the conduct of my godfather towards me did not entitle him

to any portion of my gratitude or kind remembrance. I lived, therefore, in a sort of sullen independence on all I had formerly known, and thought without regret of being abandoned by every one to my fate.... But I had not been overlooked. The women of Brixham, who travelled to Ashburton twice a week with fish, and who had known my parents, did not see me, without kind concern, running about the beach in a ragged jacket and trowsers. They mentioned this to the people of Ashburton, and never without commiserating my change of condition... This tale, often repeated, awakened at length the pity of their auditors, and, as the next step, their resentment against the man who had brought me to such a state of wretchedness. In a large town this would have had but little effect; but in a place like Ashburton, where every report speedily becomes the common property of all the inhabitants, it raised a murmur which my godfather found himself either unable or unwilling to encounter; he therefore determined to recall me, which he could easily do, as I wanted some months of fourteen and was not yet bound... All this I learned on my arrival; and my heart, which had been cruelly shut up, now opened to kinder sentiments and fairer views.

After the holidays, I returned to my darling pursuit, arithmetic: my progress was now so rapid, that in a few months I was at the head of the school, and qualified to assist my master on any extraordinary emergency. As he usually gave me a trifle on those occasions, it raised a thought in me, that, by engaging with him as a regular assistant, and undertaking the instruction of a few evening scholars, I might, with a little additional aid, be enabled to support myself... I was in my fifteenth year when I built these castles in the air; a storm, however, was collecting, which unexpectedly burst upon me and swept them all away.

On mentioning my little plan to Carlile he treated it with the utmost contempt, and told me, in his turn, that as I had learned enough, and more than enough, at school, he must be considered as having fairly discharged his duty, and so, indeed, he had; he added, that he had been negotiating with his cousin, a shoemaker of some respectability, who had liberally agreed to take me without a fee as an apprentice. I was so shocked at this intelligence that I did not remonstrate, but went in sullenness and silence to my new master, to whom I was soon after bound till I should attain the age of twenty-one... The family consisted of four journeymen, two sons about my own age, and an apprentice somewhat older. In these there was nothing remarkable; but my master was the strangest creature,

He was fond of controversy, and as his views were narrow and limited, he entertained no doubt of their infallibility, and, being noisy and disputatious, was sure to silence his opponents. He became, in consequence, intolerably arrogant and conceited... He was not, however, indebted solely to his knowledge of the subject for his triumph ; he was possessed of a Dictionary, and he made a most singular use of it. His custom was to fix on any word in common use, and then to get by heart the synonym or periphrasis by which it was explained in the book ; this he constantly substituted for the simple term, and, as his opponents were commonly ignorant of his meaning, his victory was complete.

I possessed at this time but one book in the world : it was a treatise on algebra, given me by a young woman, who had found it in a lodging-house. I considered it as a treasure ; but it was a treasure locked up ; for it supposed the reader to be well acquainted with simple equation, and I knew nothing of the matter. My master's son had purchased "Fenning's Introduction :" this was precisely what I wanted ; but he carefully concealed it from me, and I was indebted to chance alone for stumbling upon his hiding-place...I sat up for the greatest part of several nights successively, and, before he suspected that his treatise was discovered, had completely mastered it. I could now enter upon my own ; and that carried me pretty far into the science ... This was not done without difficulty. I had not a farthing on earth, nor a friend to give me one : pen, ink, and paper, therefore were, for the most part, as completely out of my reach as a crown and sceptre. There was, indeed, a resource ; but the utmost caution and secrecy were necessary in applying to it. I beat out pieces of leather as smooth as possible, and wrought my problems on them with a blunted awl ; for the rest, my memory was tenacious, and I could multiply and divide by it to a great extent.

Hitherto I had not so much as dreamed of versifying—indeed, I scarcely knew poetry by name ; and, whatever may be said of the force of nature, I certainly never "lisped in numbers" ... A person had undertaken to paint a sign for an ale-house ; it was to have been a lion, but the unfortunate artist produced a dog. On this awkward affair one of my acquaintance wrote a copy of what we called "poetry" : I liked it ; but fancied I could compose something more to the purpose : I made the experiment, and by the unanimous suffrage of my shop-mates, was allowed to have succeeded.

This and other efforts were always attended with applause, and sometimes with favors more substantial : little collections

were now and then made, and I have received sixpence in an evening. To one who had long lived in the absolute want of money, such a resource seemed a Peruvian mine: I furnished myself by degrees with paper, &c., and, what was of more importance, with books of geometry, and of the higher branches of algebra, which I cautiously concealed... Versifying, even at this time, was no amusement of mine: it was subservient to other purposes; and I only had recourse to it when I wanted money for my mathematical pursuits.

But the clouds were gathering fast: my master's anger was raised to a terrible pitch by my indifference to his concerns, and still more by the reports which were daily brought to him of my presumptuous attempts at versification. I was required to give up my papers, and when I refused, my garret was searched, and my little hoard of books discovered and removed, and all future repetitions prohibited in the strictest manner.

I look back on that part of my life which immediately followed this event with little satisfaction; it was a period of gloom and savage unsociability: by degrees I sank into a kind of corporeal torpor; or, if roused into activity by the spirit of youth, wasted the exertion in spleenetic and vexatious tricks, which alienated the few acquaintances which compassion had yet left me. So I crept on in silent discontent, unfriended and unpitied, indignant at the present, careless of the future, an object at once of apprehension and dislike.

From this state of abjectness I was raised by a young woman of my own class. She was a neighbor; and whenever I took my solitary walk, with my "Wolfius" in my pocket, she usually came to the door, and by a smile, or a short question put in the friendliest manner, endeavored to solicit my attention. My heart had been long shut to kindness, but the sentiment was not dead in me: it revived at the first encouraging word; and the gratitude I felt for it was the first pleasing sensation which I had ventured to entertain for many dreary months... Together with gratitude, hope, and other passions still more enlivening, took the place of that uncomfortable gloominess which so lately possessed me: I returned to my companions, and by every winning art in my power strove to make them forget my former repulsive ways. In this I was not unsuccessful; I recovered their good-will, and by degrees grew to be somewhat of a favorite... My master still murmured, for the business of the shop went on no better than before: I comforted myself, however, with the reflection that my ap-

prenticeship was drawing to a conclusion, when I determined to renounce the employment for ever, and to open a private school.

In this humble and obscure state, poor beyond the common lot, yet flattering my ambition with day-dreams which perhaps would never have been realised, I was found in the 20th year of my age by Mr. William Cookesley, a name never to be pronounced by me without veneration. The lamentable doggerel which I have already mentioned, and which had passed from mouth to mouth among people of my own degree, had by some accident or other reached his ear, and given him a curiosity to inquire after the author... It was my good fortune to interest his benevolence. My little history was not untinctured with melancholy, and I laid it fairly before him: his first care was to console; his second, which he cherished to the last moment of his existence, was to relieve and support me.

On examining into the nature of my literary attainments, he found them absolutely nothing: he heard, however, with equal surprise and pleasure, that, amidst the grossest ignorance of books, I had made a very considerable progress in the mathe-matics. He engaged me to enter into the details of this affair: and, when he learned that I had made it in circumstances of peculiar discouragement, he became more warmly interested in my favor.

The plan that occurred to him was naturally that which had so often suggested itself to me. There were indeed several obstacles to be overcome: I had eighteen months yet to serve, my handwriting was bad, and my language very incorrect; but nothing could slacken the zeal of this excellent man; he procured a few of my poor attempts at rhyme, dispersed them amongst his friends and acquaintance, and, when my name had become somewhat familiar to them, set on foot a subscription for my relief... I still preserve the original paper; its title was not very magnificent, though it exceeded the most sanguine wishes of my heart; it ran thus, "A subscription for purchasing the remainder of the time of William Gifford, and for enabling him to improve himself in writing and English grammar."

At the expiration of this period, it was found that my progress (for I will speak the truth in modesty) had been more considerable than my patrons expected: I had also written in the interim several little pieces of poetry, less rugged, I suppose, than my former ones, and certainly with fewer anomalies of language. My preceptor, too, spoke favorably of me; and my benefactor, who had now become my father and my friend, had little difficulty in persuading my patrons to continue me at

school for another year. Such liberality was not lost upon me; I grew anxious to make the best return in my power, and I redoubled my diligence.

Now that I am sunk into easy indolence, I look back with some degree of scepticism to my early struggles.

GRACE DARLING; THE HEROINE OF THE SEA.

THE fame which St. Cuthbert gave, of old, to the Farn Islands, has been in our days transferred to a simple but heroic girl, Grace Darling.

On the 7th of September, 1838, the *Forfarshire*, proceeding from Hull to Dundee, was wrecked on those crags. The wreck, at early dawn, was descried by the Darlings from the lighthouse, lying a little to the right, with a long ridge of sharp and destructive rocks intervening. The sea was running mountains high, rearing up into tremendous breakers. Nine survivors of that terrible catastrophe had scrambled out of the temporary reach of the waves; but the returning tide would have probably swept them off, should they, drenched and exhausted, have held out till then.

Grace Darling did not stop to weigh these chances. The moment she caught sight of them, she determined to save them if possible. To her experienced father it appeared the most desperate and hopeless of adventures. No dissuasions had, however, any effect. She declared, if he declined to accompany her, she would go alone. At last he yielded. The boat was got out, and they had at first to let it drift with the wind southward to some distance, and then bring up under the lee of the rocks aimed at ... Glad as they were at the prospect of deliverance, the survivors could not restrain their astonishment on observing an old man and a slight young woman coming to the rescue ... They succeeded. And the applause which followed the gallant exploit was enthusiastic and universal. Even from Russia visitors have come to see her, sending home accounts of her and pieces of the rock on which she lived. The lighthouse is filled with costly gifts — the tokens of admiration. None of these things have altered her character in the least. The action she performed was so natural and so necessary to her, that it would be the most impossible of things to convince her that she did anything extraordinary.

She is timid in the presence of the inquisitive stranger; but, after soliciting her father, I succeeded in seeing the heroine. I

found her sewing, dressed very neatly, but very simply, in a plain striped print, with her hair neatly braided. At that time she was about five and twenty. Her figure is by no means striking, but her face is full of sense, modesty, and genuine goodness; and that just corresponds to her inward character. Her prudence and simplicity are enchanting, and the sweetest smile plays on her lips that I ever saw in a person of her rank. Daring is not so much a quality of her nature, as the most perfect sympathy with suffering, which swallows and annihilates everything like fear or self-consideration, extinguishes in fact every sentiment but itself.

Yet a few years, and the envious grave has possessed her—
a victim to consumption.

Howitt.

AUDUBON; THE NATURALIST

“I WAS born in Louisiana, United States, about the year 1782. When I had hardly learned to walk, and to articulate those first words always so endearing to parents, the productions of nature that lay spread all around were constantly pointed out to me. They soon became my playmates; and before my ideas were sufficiently formed to enable me to estimate the difference between the azure tints of the sky and the emerald hue of the bright foliage, I felt that an intimacy with them, not of friendship merely, but bordering on frenzy, must accompany my steps through life. And now, more than ever, am I persuaded of the power of those early impressions. They laid such hold of me, that when removed from the woods, the prairies, and the brooks, or shut up from the view of the wide Atlantic, I experienced none of those pleasures most congenial to my mind.

“My father generally accompanied my steps, procured birds and flowers for me, and pointed out the elegant movements of the former, the beauty and softness of their plumage, the manifestations of their pleasure or their sense of danger, and the always perfect forms and splendid attire of the latter. He would speak of the departure and return of birds with the season, describe their haunts, and, more wonderful than all, their change of livery; thus exciting me to study them, and to raise my mind toward their great Creator.

“A vivid pleasure shone upon those days of my early youth, attended with a calmness of feeling that seldom failed to rivet my attention for hours, while I gazed with ecstasy upon the pearly and shining eggs, as they lay embedded in the softest down, or among dried leaves and twigs, or were exposed upon

the burning sand, or weather-beaten rock of our Atlantic shore. I was taught to look upon them as flowers yet in the bud.

"I grew up, and my wishes grew with my form. I was fervently desirous of becoming acquainted with nature. I wished to possess all the productions of nature, but I wished life with them. This was impossible. Then, what was to be done? I turned to my father, and made known to him my disappointment and anxiety. He produced a book of 'Illustrations.' A new life ran in my veins. I turned over the leaves with avidity, and, although what I saw was not what I longed for, it gave me a desire to copy nature. To nature I went, and tried to imitate her.

"How sorely disappointed did I feel, for many years, when I saw that my productions were worse than those which I ventured to regard as bad in the book given me by my father. My pencil gave birth to a family of cripples. So maimed were most of them, that they more nearly resembled the mangled corpses on a field of battle, than the objects which I had intended them to represent.

"These difficulties and disappointments irritated me, but never for a moment destroyed the desire of obtaining perfect representations of nature. The worse my drawings were, the more beautiful did I see the originals. To have been torn from the study, would have been as death to me. My time was entirely occupied with it. I produced hundreds of these rude sketches annually, and for a long time, at my request, they made bonfires on the anniversary of my birth-day."

In his sixteenth year, young Audubon was sent to France to pursue his education. While there, he attended schools of natural history and the arts, and took lessons in drawing from the celebrated David. Although he prosecuted his studies zealously, his heart still panted for the sparkling streams of his "native land of groves" ... He returned in his eighteenth year, with an ardor for the woods, and soon commenced a collection of drawings, which have since swelled into a series of magnificent volumes — "The Birds of America." These designs were begun on the farm given him by his father, situated near Philadelphia, on the banks of the Schuylkill ... There, amid its fine woodlands, its extensive fields, its hills crowned with evergreens, he meditated upon his simple and agreeable objects, and pursued his rambles, from the first faint streaks of day until late in the evening, when, wet with dew, and laden with feathered captives, he returned to the quiet enjoyment of the fireside. There, too, he was married, and was fortunate in choosing one who animated his courage amid vicissitudes,

and in prosperity appreciated the grounds and measures of his success.

For many years the necessities of life drove him into commercial enterprises, which naturally proved unsuccessful. His chief gratification was derived from observation and study. His friends strove to wean him from his favorite pursuits, and he was compelled to struggle against the wishes of all, except his wife and children. They alone encouraged him, and were willing to sink or swim with the beloved husband and father. At length he gave himself entirely to observation and study of the feathered inhabitants of the forest.

He undertook long and tedious journeys; he ransacked the woods, the lakes, the prairies, and the shores of the Atlantic; he spent years away from his family. "Yet, will you believe it," he says, "I had no other object in view than simply to enjoy the sight of nature. Never for a moment did I conceive the hope of becoming, in any degree, useful to my fellow-beings, until I accidentally formed an acquaintance with Charles Lucien Bonaparte, at Philadelphia, on the 5th of April, 1824."

It was soon afterward that Bonaparte, having examined Audubon's large collection of beautiful drawings, and observed his extensive knowledge of birds, said to him, "Do you know that you are a great man?" ... In reply, Mr. Audubon asked him his intention in making such a remark. "Sir," answered Bonaparte, "I consider you the greatest ornithologist in the world." He then suggested to him the importance of collecting and offering to the public the treasures which he had amassed during his wild journeyings ... This idea seemed like a beam of new light to Audubon's mind, and added fresh interest to his employment. For weeks and months he brooded over the kindling thought. He went westward to extend the number and variety of his drawings, with a view of preparing for a visit to Europe, and the publication of his works. When far away from the haunts of man, in the depths of forest solitude, happy days and nights of pleasant dreams attended him.

Only two years passed after his first interview with Lucien Bonaparte, in Philadelphia, before Audubon sailed for England. He arrived at Liverpool in 1826. Despondency and doubt seemed now to come upon him. There was not a known friend to whom he could apply in all the nation; and he imagined, in the simplicity of his heart, that every individual to whom he was about to present his subject might possess talents far superior to his own. For two days he traversed the streets of Liverpool, looking in vain for a single glance of sympathy.

There are kind and generous hearts everywhere, and men of noble faculties to discern the beautiful and true ; and it was not long before Audubon's works procured him a generous reception from the most distinguished men of science and letters. In a short time he was the admired of all admirers ... Men of genius and honor, such as Cuvier, Humboldt, Wilson, Roscoe, and Swainson, soon recognised his lofty claims ; learned societies extended to him the warm and willing hand of friendship ; houses of the nobility were opened to him ; and wherever he went, the solitary American woodsman, whose talents were so little appreciated but a few years before, that he was rejected after being proposed by Lucien Bonaparte, as a member of the Lyceum of Natural History, in Philadelphia, was now receiving the homage of the most distinguished men of science in the old world.

JAMES WATT, AND THE STEAM ENGINE.

JAMES WATT was born on the 19th day of January, 1736. His constitution was delicate, and his mental powers were precocious. He was distinguished from an early age by his candor and truthfulness, and his father used to enlighten himself on any particular of his boyish quarrels by the appeal "Let James speak ; from him I always hear truth" ... James also showed his constructive tastes equally early, experimenting on his playthings with a set of small carpenter's tools which his father had given him. His cousin describes his inventive capacity as a story-teller ; and details an incident of his occupying himself with the steam of a tea-kettle, to which she probably attached more importance than was its due, from reverting to it when illustrated by her after-recollections.

Watt may or may not have been occupied as a boy with the study of the condensation of steam while he was playing with the maternal tea-kettle, but it would be harsh to conclude that his mother inconsiderately reproved "the mighty engineer" as he was making the preludes to his discoveries. The story suggests the possibility, nothing more ; though it has been made the foundation of a grave announcement, the subject of a pretty picture, and will ever remain a basis for suggestive speculation.

The ill-health which at first seemed likely to check his application to study had only the effect of forming habits of perseverance and a disregard of temptations to a waste of time and thought. Witnessing his father's mode of conducting

business, he also assisted him in several of its details. He soon learned to construct with his own hands several of the articles required in the way of his father's trade, and by means of a small forge, set up for his own use, he repaired and made various kinds of instruments; and converted, by the way, a large silver coin into a punch ladle, as a trophy of his early skill as a metal-smith. The mysteries of handicraft which he then acquired facilitated his later experiments, and traces of his experience as a workman continually crop out in incidental passages of his life or letters... From the aptitude which he displayed for all kinds of ingenious handiwork, and in accordance with his own deliberate choice, it was decided that he should proceed to qualify himself for following the trade of a mathematical-instrument maker. On his arrival in London no time was lost in endeavoring to find a fitting instructor, but the masters skilled in the instrument line were at that time few, and several of these were tried, from various causes, in vain. Watt was beginning to despond, and looking anxiously at his shrinking purse, when he obtained work with one John Morgan. Here he gradually became proficient in making quadrants, parallel rulers, compasses, theodolites, &c., until, at the end of a year's practice, he could boast that he had attained the accomplishment of making "a brass sector with a French joint, which is reckoned as nice a piece of framing work as is in the trade."

At Glasgow, on Midsummer, 1757, he received permission to occupy an apartment and open a shop within the precincts of the College, and to use the designation of "mathematical-instrument maker to the University." Here we find him for some years, extending his business, taking a partner, and pursuing in pretty equal proportions his course of manual labor and of mental study...! We may be certain that he seized every opportunity of extending his acquaintance with physics, endeavoring, to use an expression of his own. "to find out the weak side of nature, and to vanquish her;" "for nature," he further says, "has a weak side if we can only find it out." Among other developments of his skill he undertook to construct an organ, studying for the purpose the whole theory of harmonics. "Fiddles also did he make, and, if intrated, mend;" and guitars, flutes, and violins are still in existence, preserved with care by their respective proprietors, as curious instances of their extraordinary parentage.

Watt's parlor had at this date become a rendezvous for all the loitering visitors who were scientifically inclined. "Whenever," says Robinson, "any puzzle came in the way of any of

us we went to Mr. Watt. He needed only to be prompted ; everything became to him only the beginning of a new and serious study ; and we knew that he would not quit it till he had discovered its insignificance, or had made something of it. No matter in what line — language, antiquity, natural history, nay, poetry, criticism, and works of taste ; as to anything in the line of engineering, whether civil or military, he was at home, and a ready instructor" ... Further on Robinson says, "his superiority was concealed under the most amiable candor and liberal allowance of merit to every man." Then he describes the subjects of their joint studies, and the frank converse of his gifted friend, which might easily have enabled others to appropriate his inventions.

It was some time in 1764 that the Professor of Natural Philosophy in the University desired Watt to repair a pretty model of Newcomen's steam-engine. This model was at first a plaything to Watt and Robinson, then a constant visitor at his workshop ; but, like everything which came into his hands, it soon became an object of most serious study.

He soon saw the mechanical defects of this engine ; and went to work considering harder than ever. But do our readers know the principle of the steam-engine ? In a few words we will endeavor to explain it. First, here is this fact : a pint of water may be expanded by heat into two hundred and sixteen gallons of steam ; as much steam, therefore, as will fill a gallon vessel, may, by the application of cold, be resolved again into the two hundred and sixteenth part of a pint of water.

Now let us take our "pop gun" for an illustration. Let us magnify the pop-gun, and call the tube a cylinder, and the handle or rammer a piston. Suppose a jet of steam is let into the bottom of the cylinder while the piston remains in it : the steam expands ; and, of course, up goes the piston. Now, by the application of cold, the steam becomes a little drop of water ; then down drops the handle : all the faster and heavier because the steam having shut out the air, there is not even the resistance of that to oppose it.

Repeat this up-and-down movement as often as you like. By rods and cranks it is easy to make this up-and-down movement turn a wheel or a shaft ; and that is the principle of the steam-engine.

Now, in Newcomen's engine, when the cylinder was full of steam, and the piston raised, some cold water was thrown into the cylinder, which, of course, condensed the steam, and the

piston fell. But the scheme had this great disadvantage. The cold water not only cooled the steam, but the cylinder too. The consequence was, that the vessel had to be made hot again, before the steam, as steam, would remain in it. Watt saw that this caused an expenditure of four times the necessary fuel; or, in other words, that three-fourths of the fuel employed for the engine was wasted in making the cylinder hot after each application of cold water. After much consideration, Watt remedied this great defect... It struck him that the steam, having raised the piston, might be *drawn off* for condensation. He had, therefore, a condenser placed at the side of the cylinder, into which the steam, when used, was made to pass instantly; and the piston fell as before. The cylinder was thus kept continually hot; and it was found that it took only a quarter of the fuel to make enough steam to fill it.

This was James Watt's first great improvement. Then came another. It occurred to him that if steam admitted into the *bottom* of the cylinder would send the piston *up*, steam admitted into the upper part would send the piston *down*, instead of simply allowing it to fall. To do this would almost double the power of the engine; and insure greater regularity in the working... This most important object was easily accomplished when once conceived. Bring a pipe from the boiler to the top of the cylinder, to convey the steam; and carry another from it to the condenser, to condense the steam, as in the lower parts, the thing is done; and the principle of the steam engine, as we now work it, was established. The steam is admitted *alternately* at the top and at the bottom of the piston; now forcing it up, now forcing it down.

Watt was the great *Improver* of the steam-engine; but, in truth, as to all that is admirable in its structure, or vast in its utility, he should rather be described as its *Inventor*. It was by his inventions that its action was so regulated, as to make it capable of being applied to the finest and most delicate manufactures, and its power so increased as to set weight and solidity at defiance. By his admirable contrivance, it has become a thing stupendous alike for its force and its flexibility: for the prodigious power which it can exert, and the ease, and precision, and ductility, with which that power can be varied, distributed, and applied. The trunk of an elephant, that can pick up a pin or rend an oak, is as nothing to it. It can engrave a seal, and crush masses of obdurate metal before it; draw out, without breaking, a thread as fine as gossamer, and lift a ship of war like a bauble in the air. It

can embroider muslin and forge anchors,—cut steel into ribands, and impel loaded vessels against the fury of the winds and waves.

It would be difficult to estimate the value of the benefits which these inventions have conferred upon this country. There is no branch of industry that has not been indebted to them ; and, in all the most material, they have not only widened most magnificently the field of its exertions, but multiplied a thousand-fold the amount of its productions.

It has increased indefinitely the mass of human comforts and enjoyments ; and rendered cheap and accessible, all over the world, the materials of wealth and prosperity. It has armed the feeble hand of man, in short, with a power to which no limits can be assigned ; completed the dominion of mind over the most refractory qualities of matter ; and laid a sure foundation for all those future miracles of mechanic power which are to aid and reward the labors of after generations... It is to the genius of one man, too, that all this is mainly owing ! And certainly no man ever bestowed such a gift on his kind. The blessing is not only universal, but unbounded ; and the fabled inventors of the plough and the loom, who were deified by the erring gratitude of their rude contemporaries, conferred less important benefits on mankind than the inventor of our present steam-engine.

Times, Boy's Magazine, and Jeffrey's Essays.



GEORGE STEPHENSON, AND THE LOCOMOTIVE.

AMONG the ashes and slag of a poor colliery village, near Newcastle-on-Tyne, in an unplastered room, with a clay floor and garret roof, there came into the world, on a June day, seventy-six years ago, one of its best benefactors. That was George Stephenson, the founder of the railway system.

The family continued to increase ; and, by the time when George was twelve years old he had three brothers and two sisters. He grew up in war times when bread was very dear, and it was bitterly difficult for working men to earn more than would keep body and soul together... His father, known as Old Bob by the neighbours, was a fireman to the pumping-engine at the Wylam colliery, earning not more than twelve shillings a-week. Bob was a lean and gentle man, who took pleasure in telling wonderful stories to the children who ga-

thered about his engine-fire of evenings ... About his engine-fire also, tame robins would gather for the crumbs he spared out of his scanty dinner; for he was a man who loved all kinds of animals, and he would give no better treat to his child George, than to hold him up that he might look at the young blackbirds in their nest.

Little George, when eight years old, carried his father's dinner to the engine, helped to tug about and nurse the children younger than himself and to keep them out of the way of the horses drawing chaldron waggons on the wooden tram-road that ran close before the threshold of the cottage door.

Of course he had not been to school; but he was strong, nimble of body and of wit, and eager to begin the business of bread-winning with the least possible delay. In a neighboring farmhouse lived Grace Ainslie, a widow, whose cows had the right to graze along the waggon road. The post of keeping them out of the way of the waggons, and preventing them from trespassing on other persons' liberties was given to George. He was to have a shilling a week, and his duty was to include barring the gates at night after the waggons had all passed.

That was the beginning of George Stephenson's career, and from it he pushed forward his fortune inch by inch upward. Of course he had certain peculiar abilities; but many may have them, yet few do good with them. George Stephenson made his own fortune, and also added largely to the wealth and general well-being of society. Our purpose is to show how a man may get up the hill of Difficulty, who is content to mount by short, firm steps, keeping his eyes well upon the ground that happens to lie next before his feet.

As watcher of Grace Ainslie's cows, the work of little Geordie Steevie gave him time for play. He became an authority on birds' nests, made whistles of reeds and straws; and, with Tom Tholoway, his chosen playmate, had especial pleasure in the building of little clay engines with the soil of Dewley Bog: hemlock stalks being used to represent steam-pipes and other apparatus. Any child, whose father's work was to attend an engine, would have played at engines; but, in the case of George Stephenson, it is, nevertheless, a pleasure to the fancy to dwell on the fact that, as a child, he made mud-engines and not mud-pies, when playing in the dirt ... When his legs were long enough to carry him across the little furrows, little George was promoted to the business of leading horses at the plough, and was trusted also to hoe turnips and to do other farm-work at the advanced wages of two shillings a-week.

The coal at Dewley Burn was worked out; and the Stephensons again moved to Jolly's Close, a little row of cottages shut in between steep banks. The family was now helped by the earnings of the children; and, out of the united incomes of its members, made thirty-five shillings or two pounds a-week. But the boys, as they grew older, grew hungrier, and the war with Napoleon was then raising the price of wheat from fifty-four shillings to one hundred and thirty shillings a quarter. It was still hard to live.

George, at fifteen years old, a big and bony boy, was promoted to the full office of fireman at a new working, the Midmill winning, where he had a young friend, named Bill Coe, for his mate. But the Midmill engine was a very little one, and the nominal increase of dignity was not attended with increase of wages. George's ambition was to attain rank as soon as possible as a full workman, and to earn as good wages as those his father had: twelve shillings a-week... He was steady, sober, indefatigable in his work, ready of wit, and physically strong. It was a great pleasure to him to compete with his associates in lifting heavy weights, throwing the hammer, and putting the stone. He once lifted as much as sixty stone... Midmill pit being closed, George and his friend Coe were sent to work another pumping engine, fixed near Throchley Bridge. While there, his work was adjudged worthy of a man's hire. One Saturday evening, the foreman paid him twelve shillings for a week's work, and told him that he was, from that date, advanced. When he came out, he told his fellow-workmen his good fortune, and declared in triumph: "Now I am a made man for life."

He had reached inch by inch the natural object of a boy's ambition, to be man enough to do what he has seen done by his father. But he was man enough for more than that. By natural ability joined to unflagging industry he still won his way slowly up; and, at the age of seventeen, worked in a new pit at the same engine with his father; the son taking the higher place as engineman, and Old Bob being still a fireman as he had been from the first.

It was the duty of the engine-man to watch the engine, to correct a certain class of hitches in its working, and, when anything was wrong that he could not put right, to send word to the chief engineer. George Stephenson fell in love with his engine, and was never tired of watching it. In leisure hours, when his companions went to their sports, he took his machine to pieces, cleaned every part of it, and put it together again. Thus he not only kept it in admirable working order, but became

ntimately acquainted with all its parts and knew their use. He acquired credit for devotion to his work, and really was devoted to it; at the same time he acquired a kind of knowledge that would help him to get an inch higher in the world.

But, there was another kind of knowledge necessary. At the age of eighteen he could not read; he could not write his name. His father had been too poor to afford any schooling to the children. He was then getting his friend Coe to teach him the mystery of brakeing, that he might, when opportunity occurred, advance to the post of brakesman, next above that which he held... He became curious also to know definitely something about the famous engines that were in those days planned by Watt and Bolton. The desire for knowledge taught him the necessity of learning to read books.

The brave young man resolved therefore to learn his letters and make pot-hooks at a night-school among a few colliers' sons, who paid threepence a-week each to a poor teacher at Velbottle.

George was ambitious to save a guinea or two, because he was in love with something better able to return his good-will than a steam-engine. In leisure hours he turned his mechanical dexterity to the business of mending the shoes of his fellow-workmen, and advanced from mending to the making both of shoes and lasts. This addition to his daily twelve hours' labor at the colliery, made some little addition to his weekly earnings. ... It enabled him to save his first guinea, and encouraged him to think the more of marrying Fanny Henderson, a pretty servant in a neighbouring farm-house; sweet-tempered, sensible, and good. He once had shoes of hers to mend, and, as he carried them to her one Sunday evening with a friend he could not help pulling them out of his pocket every now and then to admire them because they were hers, and to bid his companion observe what a capital job he had made of them. At the age of twenty-one, he signed his name in the register of Newburn Church as the husband of Fanny Henderson.

At Killingworth, when they had been but two or three years married, Fanny died. Soon after her death, leaving his little boy in charge of a neighbour, he marched on foot into Scotland; for he had been invited to Montrose to superintend the working of one of Bolton and Watt's engines.

It was a slight advance in independence, although no advance in fortune, when Stephenson, at the age of twenty-seven, joined two other brakesmen in taking a small contract under

the lessces for brakeing the engines at the West Moor pit. The profits did not always bring him in a pound a-week. His little son, Robert, was growing up, and he was bent firmly on giving him what he himself had lacked: the utmost attainable benefit of education in his boyhood... Therefore George spent his nights in mending clocks and watches for his neighbours, mended and made shoes, cut out lasts, even cut out the pit-men's clothes for their wives to make up, and worked at their embroidery. He turned every spare minute to account, and so wrung, from a stubborn fortune, power to give the first rudiments of education to his son.

At last there came a day when all the cleaning and dissecting of his engines turned to profit, and the clock-doctor won the more important character of engine-doctor. He had on various occasions suggested to the owners small contrivances which had saved wear and tear of material, or otherwise improved the working of his pit... When he was twenty-nine years old, a new pit was sunk at Killingworth, over which a Newcomen engine was fixed for the purpose of pumping water from the shaft. For some reason the engine failed; as one of the workmen engaged on it tells the case, "she couldn't keep her jack-head in water; all the engine men in the neighbourhood were tried, as well as Crowther of the Ouseburn, but they were clean bet." The engine pumped to no purpose for nearly twelve months. Stephenson had observed, when he saw it built, that if there was much water in the mine, that engine wouldn't keep it under, but to the opinion of a common brakesman no heed had been paid... He used often to inquire as to "how she was getting on," and the answer always was, that the men were still "drowned out." One Saturday afternoon, George went to the pit, and made a close examination of the whole machine. Kit Heppel, sinker at the pit, said to him when he had done, "Weel, George, what do you mak' o' her? Do you think you could do anything to improve her?" "Man," said George, "I could alter her and make her draw. In a week's time from this I could send you to the bottom."

The conversation was reported to Ralph Dods, the head viewer. George was known to be an ingenious and determined fellow: and, as Dods said, "the engineers hereabouts are all bet." The brakesman, therefore, was at once allowed to try his skill: he could not make matters worse than they were, and he might mend them... He was set to work at once, picked his own men to carry out the alterations he thought necessary, took the whole engine to pieces, reconstructed it, and really did, in a week's time after his talk with Heppel, clear the pit.

of water. This achievement brought him fame as a pump-curer. Dods made him a present of ten pounds, and he was appointed engine-man on good wages at the pit he had redeemed, until the work of sinking was completed. The job lasted about a year.

Thus, at the age of thirty, Stephenson had begun to find his way across the borders of the engineer's profession. To all the wheezy engines in the neighbourhood he was called in as a professional adviser. The regular men called him a quack; but the quack perfectly understood the constitution of an engine, and worked miracles of healing ... One day, as he passed a drowned quarry, on his way from work, at which a windmill worked an inefficient pump, he told the men "he would set up for them an engine no bigger than a kail-pot, that would clear them out in a week." And he fulfilled his promise.

A year after his triumph at the Killingworth Pit, George Stephenson was appointed engine-wright to the colliery at a salary of one hundred pounds a-year.

As engine-wright, Stephenson had opportunities of carrying still farther his study of the engine, as well as of turning to account the knowledge he already possessed. His ingenuity soon caused a reduction of the number of horses employed in the colliery from a hundred to fifteen or sixteen; and he had access not only to the mine at Killingworth, but to all the collieries belonging to Lord Ravensworth and his partners, a firm that had been named the Grand Allies.

The locomotive engine was then known to the world as a new toy, curious and costly. Stephenson had a perception of what might be done with it, and was beginning to make it the subject of his thoughts.

George Stephenson was thirty-two years old, and however little he may by that time have achieved, one sees that he had accumulated in himself a store of power that would inevitably carry him on, upon his own plan of *inch by inch* advance, to new successes. Various experiments had been made with the new locomotive engines. One had been tried upon the Wylam tram-road, which went past the cottage in which Stephenson was born ... George Stephenson brooded upon the subject, watched their failures, worked at the theory of their construction, and made it his business to see one. He felt his way to the manufacture of a better engine, and proceeded to bring the subject under the notice of the lessees of the colliery. He had acquired reputation not only as an ingenious but as a

safe and prudent man. He had instituted already many improvements in the collieries ... Lord Ravensworth, the principal partner, therefore authorised him to fulfil his wish ; and with the greatest difficulty, making workmen of some of the colliery hands and having the colliery blacksmith for his head assistant, he built his first locomotive in the workshops at Westmoor, and called it "My Lord" ... It was the first engine constructed with smooth wheels ; for Stephenson never admitted the prevailing notion that contrivances were necessary to secure adhesion. "My Lord" was called "Blutcher" by the people round about. It was first placed on the Killingworth Railway on the 25th of July, 1814, and, though a cumbrous machine, was the most successful that had, up to that date, been constructed.

At the end of a year it was found that the work done by Blutcher cost about as much as the same work would have cost if done by horses. Then it occurred to Stephenson to turn the steam-pipe into the chimney, and carry the smoke up with the draught of a steam-blast. That would add to the intensity of the fire and to the rapidity with which steam could be generated. The power of the engine was, by this expedient, doubled.

At about the same time some frightful accidents, caused by explosion in the pits of his district, set Stephenson to exercise his ingenuity for the discovery of a miner's safety lamp. By a mechanical theory of his own, tested by experiments made boldly at the peril of his life, he arrived at the construction of a lamp less simple, though perhaps safer, than that of Sir Humphry Davy, and with the same method of defence ... The practical man and the philosopher worked independently in the same year on the same problem. Stephenson's solution was arrived at a few weeks earlier than Davy's, and upon this fact a great controversy afterwards was founded ... One material result of it was, that Stephenson eventually received as a public testimonial a thousand pounds, which he used later in life as capital for the founding at Newcastle of his famous locomotive factory. At the Killingworth pits the "Geordy" safety lamp is still in use, being there, of course, considered to be better than the Davy.

Locomotives had been used only on the tram-roads of the collieries, and by the time when Stephenson built his second engine were generally abandoned as failures. Stephenson alone stayed in the field and did not care who said that there would be at Killingworth "a terrible blow-up some day." ... He had already made up his mind that the perfection of a travelling engine would be half lost if it did not run on a perfected rail. Engine and rail he spoke of, even then, as "man

and wife," and his contrivances for the improvement of the locomotive always went hand in hand with his contrivances for the improvement of the road on which it ran... We need not follow the mechanical details. In his work at the rail and engine he made progress in his own way, inch by inch ; every new locomotive built by him contained improvements on its predecessor ; every time he laid down a fresh rail he added some new element of strength and firmness to it. The Killingworth Colliery Railway was the seed from which sprang the whole system of railway intercourse.

The Darlington line was constructed in accordance with his survey. His travelling engine ran upon it for the first time on the 27th of September, 1825, in sight of an immense concourse of people, and attained, in some parts of its course, a speed, then unexampled, of twelve miles an hour.

With what determined perseverance Mr. Stephenson upheld the cause of the locomotive in connection with the proposed Liverpool and Manchester line : how he did cheaply what all the regular engineers declared impossible or ruinous, in carrying that line over Chat-Moss, persevering, when all who were about him had confessed despair, and because he had made good his boldest promises in every one case : how he was at last trusted in the face of public ridicule, upon the merits of the locomotive also : how after the line was built, at the public competition of light engines constructed in accordance with certain strict conditions, his little Rocket won the prize : how the fulfilment of his utmost assertions raised Stephenson to the position of an oracle in the eyes of the public : how he nevertheless went on improving the construction of both rails and locomotives : how the great railway system, of which the foundations were laid patiently by him, was rapidly developed : how, when success begot a mania, he was as conspicuous for his determined moderation as he had before been for his determined zeal : how he attained honor and fortune ; and retired from public life, again to grow enormous fruits or vegetables in his garden, pineapples instead of leeks, again to pet animals and watch the birds' nests in the hedges — we need not detail.

One of the chief pleasures of his latter days was to hold out a helping hand to poor inventors who deserved assistance. He was a true man to the last, whom failure never drove to despair ; whom success never elated to folly. Inch by inch he made his ground good in the world and for the world... A year before his death in 1848, somebody, about to dedicate a book to him, asked him what were his "ornamental initials." His reply

was, "I have to state that I have no flourishes to my name, either before or after; and I think it will be as well if you merely say, George Stephenson." *Household Words.*

Besides the judgment, invention, and other mental capacities of which his thorough workmanship proved his possession, the characteristic for which we were the least prepared was his element of speculativeness, approaching almost to imaginative power. There were times when his eye kindled, his frame dilated under the influence of some conception which he had been working out abstractedly, and when in homely, but luminous phrase, he became actually eloquent. At such moments the discerning auditor was conscious that he was in the presence of one of Nature's great ones, and saw the manifestation of an inner genius that was ordinarily hidden from observers.

An incident of his Drayton visit is in this sense very remarkable:—One day the party were standing together on the terrace near the hall, and observed in the distance a railway train flashing along, throwing behind it a long line of white steam. "Now, Buckland," said Stephenson, "I have a poser for you. Can you tell me what is the power which is driving that train?" ... "Well," said the Doctor, "I suppose it is one of your big engines." "But what drives the engine?" "Oh, very likely a canny Newcastle driver." "What do you say to the light of the sun?" "How can that be?" asked the Doctor... "It is nothing else," said the engineer; "it is light bottled up in the earth for tens of thousands of years; light, absorbed by plants and vegetables, being necessary for the condensation of carbon, during the process of their growth, if it be not carbon in another form; and now, after being buried in the earth for long ages in fields of coal, that latent light is again brought forth and liberated, and made to work, as in that locomotive, for great human purposes."

George Stephenson, man and boy, pitman and prince of the powers of his century, the hero of as great a revolution as this or any age has witnessed, was morally an unpretending character, with a curious interest in Nature and her ways. But he lived to cast a mighty net, and his signet mark on the earth's surface has been ruled in lines of iron. He is the patriarch of the iron age, with its levelling principles, its expansive forces, and its accelerated progress... Not till the present century has closed will it be easy to judge the changes he has wrought on our habits and inclinations by his single invention. Class cannot participate with class in the power of ranging to and fro, nation

cannot visit nation, the ends of the earth cannot be brought together, without consequences of which we know, thus far, only the commencement... When gunpowder brought equality into the battle field, and the printing press discussion into the Church and the assembly, we know that something further followed; the course of modern history was altered, and the pulses of public life began to flow. And now we are getting equality of material resources, equality in our dealings with time and space. Will nothing come of this hereafter? Of the rail and wheel—Stephenson's "*man and wife*"—may not our sons and our sons' sons look for the progeny?

Times.

HUGH MILLER; THE BOYHOOD OF A GEOLOGIST.

I HAD a very pleasant playmate who, though he was my junior by about a twelvemonth, and shorter by about half a head, was a diligent boy in even the Grammar School, in which boys were so rarely diligent, and, for his years, a thoroughly sensible one, without a grain of the dreamer in his composition. I succeeded, however, notwithstanding his sobriety, in infecting him thoroughly with my peculiar tastes, and learned to love him very much, partly because he doubled my amusements by sharing in them, and partly, I daresay — on the principle on which Mahomet preferred his old wife to his young one — because "he believed in me." Devoted to him as Caliban in the *Tempest* to his friend Trinculo —

"I showed him the best springs, I plucked him berries,
And I with my long nails did dig him pig-nuts."

His curiosity on one occasion was largely excited by my description of the Doocot Cave; and, setting out one morning to explore its wonders, armed with John Feddes's hammer, in the benefits of which my friend was permitted liberally to share, we failed, for that day at least, in finding our way back.

It was on a pleasant spring morning that, with my little curious friend beside me, I stood on the beach opposite the eastern promontory, that, with its stern granitic wall, bars access for ten days out of every fourteen to the wonders of the Doocot; and saw it stretching provokingly out into the green water. It was hard to be disappointed, and the cave so near. The tide was a low neap, and if we wanted a passage dry-shod, it behoved us to wait for at least a week; but neither of us understood the philosophy of neap-tides at the period ... A narrow and broken shelf runs along the promontory, on which, by the

assistance of the naked toe and the toe-nail, it is just possible to creep ... We succeeded in scrambling up to it; and then, crawling outwards on all fours, the precipice beetling more and more formidable from above, and the water becoming greener and deeper below, we reached the outer point of the promontory; and then doubling the cape on a still narrowing margin, we found the ledge terminating just where, after clearing the sea, it overhung the gravelly beach at an elevation of nearly ten feet. Adown we both dropped, proud of our success; up splashed the rattling gravel as we fell; and for at least the whole coming week, though we were unaware of the extent of our good luck at the time, the marvels of the Doocot Cave might be regarded as solely and exclusively our own. For one short seven days—to borrow emphasis from the phraseology of Carlyle—"they were our own, and no other man's."

The first few hours were hours of sheer enjoyment. The larger cave proved a mine of marvels; and we found a great deal additional to wonder at on the slopes beneath the precipices, and along the piece of rocky sea-beach in front.

The long telescopic prospect of the sparkling sea, as viewed from the inner extremity of the cavern, while all around was dark as midnight; the sudden gleam of the sea-gull, seen for a moment from the recess, as it flitted past in the sunshine; the black heaving bulk of the grampus, as it threw up its slender jets of spray, and then, as turning downwards, it displayed its glossy back and vast angular fin; even the pigeons, as they shot whizzing by, one moment scarce visible in the gloom, the next radiant in the light—all acquired a new interest, from the peculiarity of the *setting* in which we saw them. They formed a series of sun-gilt vignettes, framed in jet; and it was long ere we tired of seeing and admiring in them much of the strange and the beautiful...It did seem rather ominous, however, and perhaps somewhat supernatural to boot, that about an hour after noon, the tide, while there was yet a full fathom of water beneath the brow of the promontory, ceased to fall, and then, after a quarter of an hour's space, began actually to creep upwards on the beach. But just hoping that there might be some mistake in the matter, which the evening tide would scarce fail to rectify, we continued to amuse ourselves, and to hope on. Hour after hour passed, lengthening as the shadows lengthened, and yet the tide still rose ... The sun had sunk behind the precipices, and all was gloom along their bases, and double gloom in their caves; but their rugged brows still caught the red glare of evening. The flush rose higher and higher, chased by the shadows; and then, after lingering for a moment on their crests

of honeysuckle and juniper, passed away, and the whole became sombre and grey ... The sea-gull sprang upwards from where he had floated on the ripple, and hied him slowly away to his edge in his deep-sea stack; the dusky cormorant flitted past, with heavier and more frequent stroke, to his whitened shelf high on the precipice; the pigeons came whizzing downwards from the uplands and the opposite land, and disappeared amid the gloom of their caves; every creature that had wings made use of them in speeding homewards; but neither my companion nor myself had any, and there was no possibility of getting home without them ... We made desperate efforts to scale the precipices, and on two several occasions succeeded in reaching mid-way shelves among the crags, where the sparrow-hawk and the raven build; but though we had climbed well enough to render our return a matter of bare possibility, there was no possibility whatever of getting farther up: the cliffs had never been scaled before, and they were not destined to be scaled now ... And so, as the twilight deepened, and the precarious footing became every moment more doubtful and precarious still, we had just to give up in despair. "Wouldn't care for myself," said the poor little fellow, my companion, bursting into tears, "if it were not for my mother; but what will my mother say?" ... "Wouldn't care either," said I, with a heavy heart; "but it's just back water, and we'll get out at twelve."

We retreated together into one of the shallower and drier caves, and, clearing a little spot of its rough stones, and then groping along the rocks for the dry grass that in the spring season hangs from them in withered tufts, we formed for ourselves a most uncomfortable bed, and lay down in each other's arms ... For the last few hours mountainous piles of clouds had been rising dark and stormy in the sea-mouth: they had flared portentously in the setting sun, and had worn, with the decline of evening, almost every meteoric tint of anger, from fiery red to a sombre thunderous brown, and from sombre brown to doleful black. And we could now at least hear what they portended, though we could no longer see ... The rising wind began to howl mournfully amid the cliffs, and the sea, hitherto so silent, to beat heavily against the shore, and to boom, like distress-guns, from the recesses of the two deep-sea caves. We could hear, too, the beating rain, now heavier, now lighter, as the gusts swelled or sank; and the intermittent patter of the streamlet over the deeper cave, now driving against the precipices, now descending heavily on the stones.

My companion had only the real evils of the case to deal with, and so, the hardness of our bed and the coldness of the

night considered, he slept tolerably well; but I was unlucky enough to have evils greatly worse than the real ones to annoy me ... The corpse of a drowned seaman had been found on the beach about a month previous, some forty yards from where we lay. The hands and feet, miserably contracted, and corrugated into deep folds at every joint, yet swollen to twice their proper size, had been bleached as white as pieces of alumed sheep-skin; and where the head should have been, there existed only a sad mass of rubbish ... I had examined the body, as young people are apt to do, a great deal too curiously for my peace; and, though I had never done the poor nameless seaman any harm, I could not have suffered more from him during that melancholy night, had I been his murderer ... Sleeping or waking, he was continually before me. Every time I dropped into a doze, he would come stalking up the beach from the spot where he had lain, with his stiff white fingers, that stuck out like eagle's toes, and his pale, broken pulp of a head, and attempt striking me; and then I would awaken with a start, cling to my companion, and remember that the drowned sailor had lain festering among the identical bunches of sea-weed that still rotted on the beach not a stone-cast away. The near neighbourhood of a score of living bandits would have inspired less horror than the recollection of that one dead seaman.

As the moon rose, and brightened, the dead seaman became less troublesome; and I had succeeded in dropping as soundly asleep as my companion, when we were both aroused by a loud shout. We started up and again crept downwards among the crags to the shore; and as we reached the sea the shout was repeated. It was that of at least a dozen harsh voices united... There was a brief pause, followed by another shout; and then two boats, strongly manned, shot round the western promontory, and the men, resting on their oars, turned towards the rock, and shouted yet again... The whole town had been alarmed by the intelligence that two little boys had straggled away in the morning to the rocks of the southern Sutor, and had not found their way back. The precipices had been the scene of frightful accidents from time immemorial, and it was at once inferred that one other sad accident had been added to the number. And in this belief, when the moon rose and the surf fell, the two boats had been fitted out... It was late ere we reached Cromarty, yet a crowd on the beach awaited our arrival; and there were anxious-looking lights glancing in the windows, thick and manifold.

Early one February morning I set out a little before sunrise to make my first acquaintance with a life of labor and restraint, and I have rarely had a heavier heart than on that morning. I was but a thin loose-jointed boy at the time; fond of the petty intangibilities of romance, and of dreaming when broad awake; and, woful change! I was now going to work at what Burns has instanced in his "Twa Dogs," as one of the most disagreeable of all employments — to work in a quarry... Bating the passing uneasiness occasioned by a few gloomy anticipations, the portion of my life which had already gone by had been happy beyond the common lot. I had been a wanderer among rocks and woods; a reader of curious books when I could get them; a gleaner of old traditional stories; and now, I was going to exchange all my day-dreams and all my amusements for the kind of life in which men toil every day that they may be enabled to eat, and eat every day that they may be enabled to toil!

The quarry in which I worked lay on the southern shore of a noble inland bay, or frith rather, with a little clear stream on the one side, and a thick fir wood on the other. It had been opened in the old red sandstone of the district, and was over-topped by a huge bank of diluvial clay, which rose over it in some places to the height of nearly thirty feet, and which at this time was rent and shivered, wherever it presented an open front to the weather, by a recent frost. A heap of loose fragments, which had fallen from above, blocked up the face of the quarry, and my first employment was to clear them away... The friction of the shovel soon blistered my hands, but the pain was by no means very severe, and I worked hard, and willingly, that I might see how the huge strata below, which presented so firm and unbroken a frontage, were to be torn up and removed. Picks, and wedges, and levers, were applied by my brother workmen; and simple and rude as I had been accustomed to regard these implements, I found I had much to learn in the way of using them... They all proved inefficient, however, and the workmen had to bore into one of the inferior strata, and employ gunpowder. The process was new to me, and I deemed it a highly amusing one; it had the merit, too, of being attended with some degree of danger, as a boating or rock excursion, and had thus an interest independent of its novelty. We had a few capital shots: the fragments flew in every direction, and an immense mass of the diluvium came toppling down, bearing with it two dead birds, that in a recent storm had crept into one of the deeper fissures, to die in the shelter... I felt a new interest in examining them. The one was a pretty cock goldfinch, with its hood of vermillion, and its wings inlaid with

the gold to which it owes its name, as unsoiled and smooth as if it had been preserved for a museum. The other, a somewhat rarer bird, of the wood-pecker tribe, was variegated with light blue and a greyish-yellow ... I was engaged in admiring the poor little things, more disposed to be sentimental, perhaps, than if I had been ten years older, and thinking of the contrast between the warmth and jollity of their green summer haunts, and the cold and darkness of their last retreat, when I heard our employer bidding the workmen lay by their tools. I looked up, and saw the sun sinking behind the thick fir wood beside us, and the long dark shadows of the trees stretching downwards towards the shore.

This was no very formidable beginning of the course of life I had so much dreaded. To be sure my hands were a little sore, and I felt nearly as much fatigued as if I had been climbing among the rocks; but I had worked and been useful, and had yet enjoyed the day fully as much as usual. It was no small matter, too, that the evening converted by a rare transmutation into the delicious "blink of rest" which Burns so truthfully describes, was all my own.

I was as light of heart next morning as any of my brother workmen. There had been a smart frost during the night, and the rime lay white on the grass as we passed onward through the fields; but the sun rose in a clear atmosphere, and the day mellowed as it advanced into one of those delightful days of early spring, which give so pleasing an earnest of whatever is mild and genial in the better half of the year ... All the workmen rested at mid-day, and I went to enjoy my half hour, alone, on a mossy knoll in the neighbouring wood, which commands through the trees a wide prospect of the bay and opposite shore. There was not a wrinkle on the water, nor a cloud in the sky, and the branches were as motionless in the calm as if they had been traced on canvas ... From a wooded promontory that stretched halfway across the frith there ascended a thin column of smoke. It rose straight as the line of a plummet for more than a thousand yards, and then on reaching a thinner stratum of air spread out equally on every side like the foliage of a stately tree. Ben Wyvis rose to the west, white with the yet unwasted snows of winter, and as sharply defined in the clear atmosphere, as if all its sunny slopes and blue retiring hollows had been chiselled in marble. A line of snow ran along the opposite hills; all above was white; all below was purple ... They reminded me of the pretty French story, in which an old artist is described as tasking the ingenuity of his future son-in-law, by giving him as a subject for his pencil, a flower-piece composed only of white flowers, of

which the one half were to bear their proper color, the other half a deep purple hue, and yet all be perfectly natural ; and how the young man resolved the riddle and gained his mistress, by introducing a transparent purple vase into the picture, and making the light pass through it on the flowers that were drooping over the edge ... I returned to the quarry, convinced that a very exquisite pleasure may be a very cheap one, and that the busiest employments may afford leisure enough to enjoy it.

The shores of Cromarty are strewed over with water-rolled fragments of the primary rocks, derived chiefly from the west during the ages of the boulder clay ; and I soon learned to take a deep interest in sauntering over the various pebble-beds when shaken up by recent storms, and in learning to distinguish their numerous components ... But I was sadly in want of a vocabulary ; and as, according to Cowper, " the growth of what is excellent is slow," it was not until long after that I bethought me of the obvious enough expedient of representing the various species of simple rocks, by certain numerals, and the compound ones by the numerals representative of each separate component, ranged, as in vulgar fractions, along a medial line, with the figures representative of the prevailing materials of the mass above, and those representative of the materials in less proportions below ... Though, however, wholly deficient in the signs proper to represent what I knew, I soon acquired a considerable quickness of eye in distinguishing the various kinds of rock, and tolerably definite conceptions of the generic character of the porphyries, granites, gneisses, quartz-rocks, clay-slates, and mica-schists, which everywhere strewed the beach. In the rocks of mechanical origin I was at this time much less interested ; but in individual, as in general history, mineralogy almost always precedes geology ... I went about with my hammer, breaking into all manner of stones, with great perseverance and success. I found, in a large-grained granite, a few sheets of beautiful black mica, that, when split exceedingly thin, and pasted between slips of mica of the ordinary kind, made admirably colored eye-glasses, that converted the landscapes around into richly-toned drawings in sepia ; and numerous crystals of garnet embedded in mica-schist, that were, I was sure, identical with the stones set in a little gold brooch, the property of my mother ... To this last surmise, however, some of the neighbours to whom I showed my prize demurred. The stones in my mother's brooch were precious stones, they said ; whereas what I had found was merely a "stone upon

the shore." My friend the cabinet-maker went so far as to say that the specimen was but a mass of plum-pudding stone, and its dark-colored enclosures simply the currants; but then, on the other hand, Uncle Sandy took my view of the matter: the stone was not plum-pudding stone, he said: he had often seen plum-pudding stone in England, and knew it to be a sort of rough conglomerate of various components; whereas my stone was composed of a finely-grained silvery substance, and the crystals which it contained were, he was sure, gems like those in the brooch, and, so far as he could judge, real garnets ... This was a great decision; and, much encouraged in consequence, I soon ascertained that garnets are by no means rare among the pebbles of the Cromarty shore. Nay, so mixed up are they with its sands even,—a consequence of the abundance of the mineral among the primary rocks of Ross,—that after a heavy surf has beaten the exposed beach of the neighbouring hill, there may be found on it patches of comminuted garnet, from one to three square yards in extent, that resemble, at a little distance, pieces of crimson carpeting, and nearer at hand, sheets of crimson bead-work, and of which almost every point and particle is a gem.

These rocks, however, contain no fossil remains of early organic life — neither petrified fish nor plant of any kind; and I therefore, became deeply interested in a new region of wonders ... There lies in the frith beyond, an outlier of the lias, which strews the beach with its fragments after every storm from the sea; and in a nodular mass of bluish-grey limestone derived from this subaqueous bed I laid open my first-found ammonite. It was a beautiful specimen, graceful in its curves as those of the Ionic volute, and greatly more delicate in its sculpturing; and its bright cream-colored tint, dimly burnished by the prismatic hues of the original pearl, contrasted exquisitely with the dark grey of the matrix which enclosed it ... I broke open many a similar nodule during our stay at this delightful quarry, and there were few of them in which I did not detect some organism of the ancient world — scales of fishes, groups of shells, bits of decayed wood, and fragments of fern ... At the dinner hour I used to show my new-found specimens to the workmen; but though they always took the trouble of looking at them, and wondered at times how the shells and plants had "got into the stones," they seemed to regard them as a sort of natural toys, which a mere lad might amuse himself in looking after, but which were rather below the notice of grown-up people like themselves ... One workman, however, informed me, that things of a kind I had not yet

nd, genuine thunderbolts, which in his father's times were
ch sought for the cure of bewitched cattle, were to be
in tolerable abundance on a reach of the beach about two
es further to the west; and as, on quitting the quarry for
piece of work on which we were to be next engaged, Uncle
rid gave us all a half-holiday, I made use of it in visiting
tract of shore indicated by the workman ... There, leaning
inst the granitic gneiss and hornblend slate of the Hill
Eathie, I found a liassic deposit, amazingly rich in its or-
isms—not buried under the waves, as at Marcus' shore, or
opposite our new quarry, but at one part underlying a little
ss-covered plain, and at another exposed for several hundred
ds together along the shore ... Never yet did embryo geolo-
t break ground on a more promising field; and memorable in
existence was this first of the many happy evenings that I
ve spent in exploring it.

The Hill of Eathie, like the Cromarty Sutors, belongs to
at might be termed the Ben Nevis system of hills—that
est of our Scottish mountain systems which, running from
ith-west to north-east, in the line of the great Caledonian
ley, and in that of the valleys of the Nairn, Findhorn, and
ey, uplifted in its course, when it arose, the oolites of
therland, and the lias of Cromarty and Ross ... The deposit
ich the Hill of Eathie disturbed is exclusively a liassic
a. The upturned base of the formation rests immediately
ainst the hill; and we may trace the edges of the various
erlying beds for several hundred feet outwards, until ap-
arently near the top of the deposit, we lose them in the sea ...
he various beds, all save the lowest, which consists of a
ue adhesive clay, are composed of a dark shale, consisting
f easily separable laminæ, thin as sheets of pasteboard; and
hey are curiously divided from each other by bands of fossili-
erous limestone of but from one to two feet thick ... These
assic beds, with their separating bands, are a sort of boarded
ook; for as a series of volumes reclining against a granite
pedestal in the geologic library of nature, I used to find pleasure
in regarding them. The limestone bands, elaborately marbled
with lignite, ichthyolite, and shell, form the stiff boarding;
the pasteboard-like plates between, tens and hundreds of
thousands in number in even the slimmer volumes, compose
the closely-written leaves. I say closely written; for never yet
did signs or characters lie closer on page or scroll than do the
organisms of the lias on the surface of these leaf-like laminæ.
... I can scarce hope to communicate to the reader, after the
lapse of so many years, an adequate idea of the feeling of

wonder which the marvels of this deposit excited in my mind, wholly new as they were to me at the time. Even the fairy lore of my first-formed library had impressed me less. The general tone of the coloring of these written leaves, though dimmed by the action of untold centuries, is still very striking; and on some of them curious pieces of incident are recorded.

Hugh Miller.

Descriptive Catalog.



E U R O P E.

ENGLAND AND THE ENGLISH.

ALPIERI thought Italy and England the only countries worth living in ; the former, because there nature vindicates her rights, and triumphs over the evils inflicted by the governments ; the latter, because art conquers nature, and transforms a rude, ungenial land into a paradise of comfort and plenty ... England is a garden. Under an ash-colored sky, the fields have been combed and rolled till they appear to have been finished with a pencil instead of a plough. The solidity of the structures that compose the towns speaks the industry of ages. Nothing is left as it was made. Rivers, hills, valleys, the sea itself, feel the hand of a master. The long habitation of a powerful and ingenious race has turned every rood of available land to its best use, has found all the capabilities, the arable soil, the quarriable rock, the highways, the byways, the fords, the navigable waters ; and the new arts of intercourse everywhere arrest the attention ; so that England is a huge phalanstery, where all that man wants is provided within the precinct...Cushioned and comforted in every way, the traveller rides as on a cannon-ball, high and low, over rivers and towns, through mountains, in tunnels of three or four miles, at nearly twice the speed of our trains ; and reads quietly *The Times* newspaper, which, by its immense correspondence and reporting, seems to have machinised the rest of the world for his occasion.

The problem of the traveller landing at Liverpool is, Why England is England. What are the elements of that power which the English hold over other nations ? If there be one test of national genius universally accepted, it is success ; and if there be one successful country in the universe for the last millennium, that country is England.

A wise traveller will naturally choose to visit the best of actual nations ; and an American has more reasons than another to draw him to Britain. In all that is done or begun by the Americans towards right thinking or practice, we are met by a civilisation already settled and overpowering. The culture of the day, the thoughts and aims of men, are English

thoughts and aims. A nation considerable for a thousand years since Egbert, it has in the last centuries, obtained the ascendant, and stamped the knowledge, activity, and power of mankind with its impress.

As soon as you enter England, which, with Wales, is no larger than the state of Georgia*, this little land stretches by an illusion to the dimensions of an empire. The innumerable details, the crowded succession of towns, cities, cathedrals, castles, and great and decorated estates, the number and power of the trades and guilds, the military strength and splendor, the multitudes of rich and of remarkable people, the servants and equipages,—all these catching the eye, and never allowing it to pause, hide all boundaries by the impression of magnificence and endless wealth.

The territory has a singular perfection. The climate is warmer by many degrees than it is entitled to by latitude. Neither hot nor cold, there is no hour in the whole year when one cannot work. Here is no winter, but such days as we have in Massachusetts in November, a temperature which makes no exhausting demand on human strength, but allows the attainment of the largest stature. Charles the Second said, “it invited men abroad more days in the year, and more hours in the day, than any other country” ... Then, England has all the materials of a working country, except wood. The constant rain,—a rain with every tide in some parts of the island,—keeps its multitude of rivers full, and brings agricultural production up to the highest point. It has plenty of water, of stone, of potter’s clay, of coal, of salt, and of iron. The land naturally abounds in game, immense heaths and downs are studded with quails, grouse, and woodcock, and the shores are animated by waterbirds ... The rivers and the surrounding sea spawn with fish; there are salmon for the rich, and sprats and herrings for the poor. In the northern lakes, the herrings are in innumerable shoals: at one season, the country-people say, the lakes contain one part water and two parts fish.

But England is anchored at the side of Europe, and right in the heart of the modern world. The sea, which, according to Virgil’s famous line, divided the poor Britons utterly from the world, proved to be the ring of marriage with all nations. It is not down in the books; it is written only in the geologic strata, that fortunate day when a wave of the German Ocean burst the old isthmus which joined Kent and Cornwall to France,

* Add South Carolina, and you have more than an equivalent for the area of Scotland.

and gave to this fragment of Europe its impregnable sea-wall, cutting off an island of eight hundred miles in length, with an irregular breadth reaching to three hundred miles ; a territory large enough for independence enriched with every seed of national power, so near, that it can see the harvests of the Continent ; and so far, that who would cross the Strait must be an expert mariner, ready for tempests.

As America, Europe, and Asia lie, these Britons have precisely the best commercial position in the whole planet, and are sure of a market for all the goods they can manufacture. And to make these advantages avail, the river Thames must dig its spacious outlet to the sea from the heart of the kingdom, giving road and landing to innumerable ships, and all the convenience to trade that a people, so skilful and efficient in economising water-front by docks, warehouses, and lighters, required. When James the First declared his purpose of punishing London by removing his Court, the lord-mayor replied, "that in removing his royal presence from his lieges, they hoped he would leave them the Thames." *Emerson.*

ENGLISH AND FRENCH CHARACTER.

As I am a mere looker-on in Europe, and hold myself as much as possible aloof from its quarrels and prejudices, I feel something like one overlooking a game, who, without any great skill of his own, can occasionally perceive the blunders of much abler players. This neutrality of feeling enables me to enjoy the contrasts of character presented in this time of general peace, when the various peoples of Europe, who have so long been sundered by wars, are brought together and placed side by side in this great gathering-place of nations... No greater contrast, however, is exhibited, than that of the French and English. The peace (of 1815) has deluged Paris with English visitors, of all ranks and conditions. They throng every place of curiosity and amusement ; fill the public gardens, the galleries, the cafés, saloons, theatres ; always herding together, never associating with the French. The two nations are like two threads of different colors — tangled together, but never blended.

In fact, they present a continual antithesis, and seem to value themselves upon being unlike each other ; yet each have their peculiar merits, which should entitle them to each other's esteem. The French intellect is quick and active. It flashes its way into a subject with the rapidity of lightning ; seize

upon remote conclusions with a sudden bound ; and its deductions are almost intuitive. The English intellect is less rapid, but more persevering ; less sudden, but more sure in its deductions... The quickness and mobility of the French enable them to find enjoyment in the multiplicity of sensations. They speak and act more from immediate impressions than from reflection and meditation. They are therefore more social and communicative ; more fond of society, and of places of public resort and amusement... An Englishman is more reflective in his habits. He lives in the world of his own thoughts, and seems more self-existent and self-dependent. He loves the quiet of his own apartment ; even when abroad, he in a manner makes a little solitude around him by his silence and reserve ; he moves about shy and solitary, and, as it were, buttoned up, body and soul.

The French are great optimists : they seize upon every good as it flies, and revel in the passing pleasure... The Englishman is too apt to neglect the present good in preparing against the possible evil. However adversities may lower, let the sun shine but for a moment, and forth sallies the mercurial Frenchman, in holiday dress and holiday spirits, gay as a butterfly, as though his sunshine were perpetual ; but let the sun beam never so brightly, so there be but a cloud in the horizon, the wary Englishman ventures forth distrustfully, with his umbrella in his hand.

The Frenchman has a wonderful facility at turning small things to advantage. No one can be gay and luxurious on smaller means ; no one requires less expense to be happy. He practises a kind of gilding in his style of living, and hammers out every guinea into gold-leaf... The Englishman, on the contrary, is expensive in his habits, and expensive in his enjoyments. He values everything, whether useful or ornamental, by what it costs. He has no satisfaction in show, unless it be solid and complete. Everything goes with him by the square foot. Whatever display he makes, the depth is sure to equal the surface.

The Frenchman's habitation, like himself, is open, cheerful, bustling, and noisy. He lives in a part of a great hotel, with wide portal, paved court, a spacious dirty stone staircase, and a family on every floor. All is clatter and chatter. He is good-humored and talkative with his servants, sociable with his neighbours, and complaisant to all the world. Anybody has access to himself and his apartments ; his very bedroom is open to visitors, whatever may be its state of confusion ; and all this *not from any peculiarly hospitable feeling, but from that communicative habit which predominates over his character.*

The Englishman, on the contrary, ensconces himself in a snug brick mansion, which he has all to himself; locks the front door; puts broken bottles along his walls, and spring-guns and man-traps in his gardens; shrouds himself with trees and window-curtains; exults in his quiet and privacy, and seems disposed to keep out noise, daylight, and company. His house, like himself, has a reserved, inhospitable exterior; yet, whoever gains admittance is apt to find a warm heart and warm fireside within.

The French excel in wit, the English in humor; the French have gayer fancy, the English richer imaginations. The former are full of sensibility, easily moved, and prone to sudden and great excitement, but their excitement is not durable; the English are more phlegmatic, not so readily affected, but capable of being aroused to great enthusiasm... The faults of these opposite temperaments are, that the vivacity of the French is apt to sparkle up and be frothy, the gravity of the English to settle down and grow muddy. When the two characters can be fixed in a medium — the French kept from effervescence and the English from stagnation — both will be found excellent.

This contrast of character may also be noticed in the great concerns of the two nations. The ardent Frenchman is all for military renown; he fights for glory: that is to say, for success in arms. For, provided the national flag is victorious, he cares little about the expense, the injustice, or the inutility of the war. It is wonderful how the poorest Frenchman will revel on a triumphant bulletin: a great victory is meat and drink to him; and at the sight of a military sovereign bringing home captured cannon and captured standards, he throws up his greasy cap in the air, and is ready to jump out of his wooden shoes for joy.

John Bull, on the contrary, is a reasoning, considerate person. If he does wrong, it is in the most rational way imaginable. He fights because the good of the world requires it. He is a moral person, and makes war upon his neighbour for the maintenance of peace and good order, and sound principles. He is a money-making personage, and fights for the prosperity of commerce and manufactures... Thus the two nations have been fighting, time out of mind, for glory and good. The French, in pursuit of glory, have had their capital twice taken; and John, in pursuit of good, has run himself over head and ears in debt.

W. Irving.

THE DUTCH PARADISE: BROEK, AMSTERDAM.

THE village of Broek is about four miles from Amsterdam, in the midst of the greenest and richest pastures of Holland—I may say of Europe. These pastures are the source of its wealth; for it is famous for its dairies and for its oval cheeses, which regale and perfume the whole civilised world ... The population consists of about 600 persons, comprising several families which have inhabited the place since time immemorial, and have waxed rich on the produce of their meadows. They keep all their wealth to themselves; intermarrying, and holding strangers at wary distance.

What, however, renders Broek so perfect a paradise in the eyes of all true Hollanders, is the matchless height to which the spirit of cleanliness is carried there. It amounts almost to a religion among the inhabitants, who pass the greater part of their time in rubbing, and painting, and varnishing. Each housewife vies with her neighbour in her devotion to the scrubbing brush; and it is said that a notable housewife in days of yore is still held in pious remembrance, for having died of pure exhaustion and chagrin, in an ineffectual attempt to scour a black man white.

These particulars awakened my ardent curiosity, to see a place which I pictured to myself the very fountain-head of certain hereditary habits and customs, prevalent among the descendants of the original Dutch settlers of my native state of New York. I accordingly lost no time in performing a pilgrimage to Broek.

Before I reached the place, I beheld symptoms of the tranquil character of its inhabitants. A little clump-built boat was in full sail along the lazy bosom of a canal, but its sail consisted of the blades of two paddles, standing on one end, while the navigator sat steering with a third paddle in the stern, crouched down like a toad, with a slouched hat drawn over his eyes... After proceeding a little further, I came in sight of the harbor, or port of destination, of this drowsy navigator. This was an artificial basin, or sheet of olive-green water, tranquil as a mill-pond. On this the village of Broek is situated; and the borders are laboriously adorned with flower beds, box trees clipped into all kinds of ingenious shapes and fancies, and little pleasure-houses or pavilions ... I alighted outside of the village, for no horse or vehicle is permitted to enter its precincts. Shaking the dust off my feet, therefore, I prepared to enter, with due reverence and circumspection, this shrine of Dutch cleanliness. I passed in by a narrow street, paved with

yellow bricks, laid edgewise, and so clean that one might eat from them. Indeed, they were actually worn deep, not by the tread of feet, but by the friction of the scrubbing brush.

The houses were built of wood, and all appeared to have been freshly painted, of green, yellow, and other bright colors. They were separated from each other by gardens and orchards, and stood at some little distance from the street, with wide areas or court yards, paved in mosaic with variegated stones, polished by frequent rubbing... The areas were divided from the street by curiously wrought railings, or balustrades of iron, surmounted with brass and copper balls, scoured into dazzling effulgence. The very trunks of the trees in front of the houses were by the same process made to look as if they had been varnished.

The porches, doors, and window-frames of the houses were of exotic woods, curiously carved, and polished like costly furniture. The front doors are never opened, except for christenings, marriages, or funerals ; on all ordinary occasions visitors entered by the back door. In former times, persons when admitted had to put on slippers ; but this Oriental custom is no longer insisted upon.

I walked about the place in mute wonder and admiration. A dead stillness prevailed around, like that in the deserted streets of Pompeii. No sign of life was to be seen, except now and then a hand and a long pipe, and an occasional puff of smoke out of the window of some pleasure house, overhanging a miniature canal ; and on approaching nearer, the portly presence of some substantial burgher.

After having been conducted from one wonder to another of the village, I was ushered by my guide into the grounds and gardens of Mynheer Broekker, a mighty cheese manufacturer of large fortune. I had repeatedly been struck with the similarity of all I had seen in this amphibious little village, to the buildings and landscapes on Chinese plates and teapots ; but here I found the resemblance complete, for I was told that these gardens were modelled after a Dutch traveller's description of those of a Chinese mandarin. Here were serpentine walks with trellised borders, winding canals with fanciful Chinese bridges, flower beds resembling huge baskets, with flowers falling over to the grounds.

But the owner's fancy had been chiefly displayed about a little stagnant lake, on which a corpulent pinnace lay at anchor. On the border was a cottage, within which were a wooden man and woman sitting at a table, and a wooden dog beneath, all of the size of life ; on pressing a spring, the woman

commenced spinning, and the dog barked furiously. On the lake were wooden swans, painted to the life; some floating, others on the nest, while a wooden sportsman, crouched among the bushes, was preparing a gun to take deadly aim.

In another part of the garden was a dominie in his clerical robes, with wig, pipe, and cocked hat; and mandarins with nodding heads, amid red lions, green tigers, and blue hares. Last of all, the heathen deities, in wood and plaster, male and female, seeming to stare with wonder at finding themselves in such strange company.

To attempt to gain admission to any of these stately abodes was out of the question. I was fortunate enough, however, through the aid of my guide, to make my way into the kitchen of one of them; and I question whether the parlor would have proved more worthy of observation. The cook, a little woman, worn thin with incessant action and friction, was bustling about among her saucepans and kettles, with the scullion at her heels, both clattering in wooden shoes, which were as clean and white as the milk-pails; rows of vessels, of brass and copper, regiments of pewter dishes and portly porringers, gave resplendent evidence of the intensity of their cleanliness. The very trammels and hangers in the fire-place were highly scoured, and the burnished face of St. Nicholas shone forth from the iron plate of the chimney back.

I must not omit to mention that this village is the paradise of cows as well as of men; indeed, you would almost suppose the cow to be an object of worship there; and well does she merit it, for she is in fact the patroness of the place. The same scrupulous cleanliness, however, which pervades everything else, is manifested in the treatment of this venerated animal. She is not permitted to roam about the place; but in winter, when she forsakes the rich pastures, a well-built house is provided for her, well painted and maintained in the most perfect order. Her stall is of ample dimensions; the floor is scrubbed and polished, and her hide is daily curried, and brushed, and sponged to her heart's content.

W. Irving.

BADEN.

BADEN is one of the most interesting duchies, or petty potentialities, in Europe. It has an air of bustle and prosperity that predisposes the visitor to think favorably of the industry and morals of the people. The soil is rich and fertile, and the country abounds in barley, wheat, maize, tobacco, hops, flax,

hemp, and wine; and, in addition to its luxuriance, it is extremely picturesque... Baden-Baden, the watering-place, nestles in a dimple of the hills. The situation is just such a vision of foliage and mountains as might be supposed to rise upon the dreams of a painter. The valley itself is so contracted, that the town is scattered up the side of a slope, where it is literally buried in green leaves. The smallness of the valley, or dell, constitutes one of its charms, by bringing it all within the range of view at once, from any of the neighbouring elevations... The panorama is exquisite. The stream of the Oos runs past the town, like a thread of spun glass sparkling in the sun; hanging woods, pierced by innumerable winding paths, clothe the surrounding heights; and the dark pinnacles of the Black Forest range, which takes its spring here, are relieved by grey fragments of castles, that add to the natural beauty of the scene the attractions of many a wild legend.

But this natural loveliness, and the uses to which it is put, are at startling variance with each other. There cannot be conceived a greater anomaly than the strange conjunction which nature and society present in this place. It is Elysium convulsed by low passions and vulgar excitement... Could one go to Baden-Baden to enjoy the scenery with the mental repose it demands, there is not a spot in Germany to which poetical pilgrims might be more confidently recommended; but the pilgrims who come here, and who render intellectual enjoyment of any kind impossible, are not exactly of that class.

Turning from the town,—if the clusters of hotels and lodging-houses of which it is chiefly composed be entitled to be called a town,—there are ample resources for quiet people close at hand, in the profound solitudes by which the vortex is clasped round on all sides... In five minutes you may exchange the rattle of the dice for the songs of birds in the deep woods; you may plunge into valleys lower and steeper than that in which you find yourself on the verge of the stream; you may ascend the hills by a multitude of tortuous paths, leading to recesses into which the sun has never peeped; you may clamber up piles of rocks to obtain a commanding prospect of the country, or you may ride or drive for hours and hours together, through landscapes of never-ending variety.

One of the first lions to which the stranger directs his exploring steps is the Castle of Baden, immediately above the town. It is nearly three hundred years old, dating from its foundation, without reference to subsequent devastations and restorations, yet it is called the New Schloss, in order that it may not be confounded with the Old Schloss, which stands higher

up, on the peak of the hill. Of the Old Castle, enough of the crumbling remains are yet in existence to afford a tolerably clear notion of its former strength and importance. The broken masses of the pile are smothered in forest trees and a luxuriant growth of underwood, and both in form and color have a singularly picturesque appearance. Ascending the old walls to the summit of the battlements, you see the valley at your feet, with a vast extent of country spreading round on all sides, upon which you can trace, as upon a map, numerous towns, villages, woods, mountains, and rivers ... The interest of the New Castle arises from a different source. The building itself is exceedingly unsightly, heavy, and shapeless. But whoever has a taste for inspecting dungeons, or desires to make himself acquainted with some of the ingenious cruelties which were practised in the Middle Ages, will profit by a visit to this memorial of feudal tyranny ... These dungeons, or caverns, are scooped in the naked rock, at a great depth below the foundations of the castle; and although access to them is now rendered easy enough by flights of steps, it was not so when they were put to uses which the English imagination of the nineteenth century cannot very readily conceive. Instead of being conducted down a staircase by an obliging castellan, the prisoner was shot down a vertical shaft into the hopeless darkness by a windlass. There was no other entrance to the dungeons. Thus, bound and blindfolded, the unlucky wretch who had the misfortune to fall under the displeasure of the lord of Baden, was sent to his doom ... In these terrible vaults were racks and engines of torture, with the sight of some remains of which the curious visitor may be regaled; and the place of the trap-door may yet be seen through which the condemned was precipitated, and caught and mangled in his fall by spiked wheels in full motion. *Wayside Pictures.*



SWISS DAIRY.

IN Switzerland each parish has its Alp, that is, its common pasture for the cows of the parish, which is the proper meaning of the word Alp; and each inhabitant is entitled to a cow's grazing, or half a cow's grazing, from June to October, on this common pasture ... These grazing rights are highly prized, for the Swiss peasant is extravagantly fond of his cow. To pass a winter without a cow to care for, would be a heavy life to him. Few, however, have cows in sufficient number to repay the labor of attending them at the summer-grazing in the

Alps...The properties are too small, in general, to keep more than five or six cows all winter, and few can keep more than half that number. Yet these small proprietors contrive to send cheeses to market as large as our Cheshire dairy farmers with their dairy-stocks of forty or fifty cows, and farms rented at 200*l.* or 300*l.* a year. This is a signal instance of the absurdity of the dogma in agriculture, so implicitly received by all our political economists from books on farming—that small farms are incompatible with good husbandry, or farming operations on a great scale...Gruyere and Parmesan cheeses are quite as large as Cheshire cheeses, and, as the price shows, are incomparably better in quality. They are made by small farmers, each of whom has not, on an average, the milk of half a dozen cows to make cheese of...One cheeseman, one pressman or assistant, and one cowherd, are considered necessary for every forty cows. The owners of the cows get credit, each of them, in a book daily, for the quantity of milk given by each cow. The cheeseman and his assistants milk the cows, put the milk altogether, and make cheese of it; and at the end of the season, each owner receives the weight of cheese proportionable to the quantity of milk his cows have delivered...By this co-operative plan, instead of small-sized unmarketable cheese, which each could only produce out of his three or four cows' milk, he has the same weight in large marketable cheese, superior in quality, because made by people who attend to no other business...The cheeseman and his assistants are paid so much per head of the cows, in money or in cheese, or sometimes they hire the cows, and pay the owners in money or cheese. When we find this, which of all operations in husbandry seems most to require one large stock, and one large capital applied to it, so easily accomplished by the well-understood co-operation of small farmers, it is idle to argue that draining, or irrigation, or liming, or fencing, or manuring, or any operation whatsoever in farming, for which large capital is required, cannot be accomplished also by small farmers—not small tenant-farmers, but small proprietor-farmers like the Swiss...In October, the cows are brought home; and the home grass-lands having been mown for hay twice during the summer, the winter-food is provided, and a very small area of land keeps a cow, when the home-grass has not been burdened with the summer grazing. The pasture in these Alps, or summer grazings, is abundant and rich.

Each family takes care of and milks its own cow or cows, keeps the milk wanted for family use, and sends the rest of it daily to the cheeseman, who gives each family credit for the

quantity of milk delivered each day ; and the cheese made during the season is divided, or very usually the cheese is marketed and the money divided ; and in this way cheeses of great weight are manufactured, although no one cow-owner has milk enough to make one of marketable size.

I went one warm forenoon, while ascending the Righi, into one of these dairy-houses. From the want of dairy-maids or females about the place, and from the appearance of the cowman and his boys, I thought it prudent to sit down on the bench outside of the smoky dwelling-room, and to ask for a bowl of milk there. It was brought me in a remarkably clean wooden bowl, and I had some curiosity, when my milk was swallowed, to see where it came from... The man took me to a separate wooden building ; and instead of the disgusting dirt and sluttishness I had expected, I found the most unpretending cleanliness in this rough milk-room : nothing was in it but the wooden vessels belonging to the dairy, but these were of unexceptionable nicety ; and all those holding the milk were standing in a broad rill of water ; led from the neighbouring burn, and rippling through the centre of the room ; and prevented by a little side sluice from running too full and mingling with the milk... This burn running through gave a freshness and cleanliness to every article, although the whole was of rude construction, and evidently for use, not show. The cows were stabled, I found, at some distance from the milkhouse, that the effluvia of their breath and dung might not taint the milk.

Cheese is almost the only agricultural product of Switzerland that is exported ; and it is manufactured by these small farmers certainly as well, with as much intelligence, cleanliness, and advantage, as by large farmers. Grain the country must import, and the supply is principally from the east side of the lake of Constance. Wine is not produced in greater quantity than the country consumes... The Swiss cows are exported even to Russia, and to all parts of France and Germany ; but as Swiss pasturage, and Swiss care, and love for the cow are not exportable, these agricultural improvements generally fail. The Swiss cows are very handsome animals, and of great value. A fine cow will sell for 20*l.* sterling in Switzerland. Such a cow in England would bring the same price in any good market. In all this branch of husbandry, the small farming system is not in any respect behind the large farming system.

Laing.

ASCENT OF THE WETTERHORN.

HALF an hour's ascent over the herbage and among the boulders brought us to a stone under which we were to pass the night. It was a splendid wild scene—no distant prospect, but we were in the very heart of the crags and the ice—surrounded by some of the grandest glaciers and precipices in the Alps. I climbed alone a neighbouring height; the glacier, by whose side we had ascended, lay white and cold at its base; but the tints of the evening sky over the mountains which border the valley of Lauterbrunnen were wonderfully rich, while every peak and glacier around was bathed in a flood of purple.

I cast one look towards that majestic summit upon which I hoped, before to-morrow's sunset, to have stood, and returned to more practical cares and occupations, stimulated by a pleasing excitement, and filled with all the mingled wonder, delight, and awe, which take possession of the soul, when evening falls amidst the solemn silence of these Alpine fastnesses, and which no man can or would repress. I found our sleeping-den to consist of a low, arched cave, formed by two or three rocks, one of which, somewhat hollow on the under side, had fallen curiously upon the others, so as to make a kind of vaulted roof... Two sides were supplied by the boulders on which it rested, and, in the course of time, the earth had so accumulated about them, that all round their bases they were hermetically sealed, and the ground without was two or three feet higher than the floor of the cavern. Mould had also gathered about their points of contact, so that the holes and crannies were filled up, and the shelter was complete. Only one narrow entrance was left, and the care of the hunters had blocked this up with stones, which we removed ... There was barely room for one to enter at a time, and we were obliged to creep backwards through the aperture. Within, the hunters, whose calling had led them to sleep in this natural chamber, had strewn the floor of earth with a thick covering of short mountain hay, which gave an unexpected look of warmth and comfort to the place. It was small enough for half a dozen men to sleep in; it was difficult to see how we should all pack; but at all events, we must try.

It was eight o'clock when we entered the cave; I lay uneasily for many hours, but at length I could endure it no longer; I spoke to Balmat, the guide, who was near me, and found he too was very uncomfortable, and we agreed to make our escape. We got across the sleepers, somehow, knocked

out the stones, and emerged. Oh! how grateful was that cool fresh air! how refreshing that draught at the mountain torrent! ... The stars were shining as I never saw them before in my life, like so many balls of fire in the black concave; the glaciers were sparkling in the soft light of the waning moon, now in her fourth quarter. It was just two o'clock, but not cold, and a bracing air blew briskly, yet pleasantly, from the north-west ... I had been up before the sun, many a morning, on many a mountain height, and had seen, I thought, almost every phase of Alpine night-scenery; but so beautiful a nocturnal view as this I never yet beheld; it spoke well for the promise of the day. Presently, some of the men came out, a fire was kindled, and tea and coffee made. I stripped, and had a bathe in the dashing torrent; it was icy-cold, but did me more good than the weary night in the hole ... Balmat and I were urgent with Lauener to start as early as possible, for we all expected a long day, and we wished to reach the snow while it was yet crisp; but he refused to start before half-past four, saying, that in an hour we should reach the glacier, and that the moon was not bright enough to light us across it. It was still dark when, at the hour appointed, we set off, and for some time we groped our way by the help of a lantern ... During the first hour and a half, we mounted amongst a mass of *débris*, and amidst great boulders of rock, which lie below, or form part of, the terminal moraine of the glacier. It was disagreeable walking in the dark, and we were frequently stumbling and falling. Long before we reached the glacier, day had begun to dawn, and a cold, clear grey was stealing over the sky:—

“ Lo! on the eastern summit, clad in grey,
Morn, like a horseman girt for travel comes;
And from his tower of mist
Night’s watchman hurries down ! ”

We were nearly an hour upon the ice, on leaving which we approached an abrupt wall of rock, which afforded the only means of access to the upper plateau. It turned out to be not absolutely precipitous, but full of small ledges and steep slopes covered with loose stones and schistose *débris*, which gave way at every step ... The substratum appeared to be a schistaceous gneiss, very friable and much disintegrated by the weather; so that every particle had to be tried, before it was safe to trust hand or foot to it. It was extremely steep; very often the ledges which gave us foot-hold were but an inch or two wide, and throughout it was a marvel to me that rocks which, from a short distance off, looked such absolute precipices, could be

climbed at all ... At length, we came to a very singular formation. Standing out from a nearly perpendicular wall of rock were a series of thin parallel wedges of rock, planted, with the thin edge upwards, at right angles to the body of the mountain, and separated from each other by deep intervening clefts and hollows. Each of these wedges was two or three hundred feet in height, seventy or eighty in width at the base, but narrowing off to the thickness of a few inches, and presenting at the top a rough and jagged ridge, forty or fifty feet long, by which we must pass to reach the plateau which lay just beyond. We first climbed to the top of one of these wedges, and then had to make our way along its crest.

It was nervous work ; a good head, a stout heart, a steady hand and foot, were needed. Lauener went first, carrying a rope, which we stretched by the side of the ridge, so as to form a protection to the next passer. Bohren went next ; then came my own turn. It was certainly the worst piece of scrambling I ever did. The rock was much shattered by exposure to the frost and snow, and there was hardly a single immovable piece along the whole length ... Every bit had to be tried before it was trusted to, and many were the fragments, some as large as a shoulder of mutton, and something of that shape, which came out when put to the test, and went crashing down till out of sight, making an avalanche of other stones as they fell. I passed my right arm over the top of the ridge, and thus secured myself, having the rock between that arm and my body, on one side, and the rope stretched below me, on the other ... Every one had to pass much in the same way, and it was a long quarter of an hour before we were all safely landed on the snow beyond. We now fastened ourselves all together with ropes, and commenced the last ascent. It lay near the edge of a long and steep *arête*, which connects the Mittelhorn with the Wetterhorn ; at the place where we gained the plateau, the ridge was nearly level, but almost immediately began to rise sharply towards the peak ... We were now at the back of the mountain, as seen from the valley of Grindelwald, which was, of course, completely hidden from the view. When we had stopped to take something to eat, we were at an extremity of the ridge which runs up to the actual summit, and, as it were, peeped round a corner. We were not to see the valley again, till we stood upon the summit.

The ascent was rapid, and commenced in deep snow ; but it was not long before the covering of snow became thinner, and the slope more rapid, and every minute a step or two had to be cut. In this way, we zig-zagged onwards for nearly an

hour, in the course of which we made, perhaps, a thousand feet of ascent, having the satisfaction, every time we looked round, to see a wider expanse of prospect risen into view ... About ten o'clock, we reached the last rocks, which were a set of black, sloping, calcareous crags, whose inclination was hardly less than that of the glacier, left bare by the melting of the snow; they were much disintegrated by the weather, and the rough and shady *débris* on their surface was, for the most part, soaked with the water that trickled from the snows above. ... Here we sat down, and unharnessed ourselves. A gentle breeze tempered the heat of the sun, which shone gloriously upon a sparkling sea of ice-clad peaks, contrasting finely with the deep blue of the cloudless heaven.

Once established on the rocks, and released from the ropes, we began to consider our next operations. A glance upwards showed that no easy task awaited us. In front rose a steep curtain of glacier, surmounted, about five or six hundred feet above us, by an overhanging cornice of ice and frozen snow, edged with a fantastic fringe of pendants and enormous icicles. ... This formidable obstacle bounded our view, and stretched from end to end of the ridge. What lay beyond it, we could only conjecture; but we all thought that it must be crowned by a swelling dome which would constitute the actual summit. We foresaw great difficulty in forcing this imposing barrier; but, after a short consultation, the plan of attack was agreed upon, and immediately carried into execution ... Lauener and Sampson were sent forward to conduct our approaches, which consisted of a series of short zig-zags, ascending directly from where we were resting to the foot of the cornice. The steep surface of the glacier was covered with snow; but it soon became evident that it was not deep enough to afford any material assistance. It was loose and uncompacted, and lay to the thickness of two or three inches only; so that every step had to be hewn out of the solid ice ... Lauener went first, and cut a hole just sufficient to afford him a foot-hold while he cut another. Sampson followed, and doubled the size of the step, so as to make a safe and firm resting-place. The line they took ascended, as I have said, directly above the rocks on which we were reclining, to the base of the overhanging fringe. Hence the blocks of ice, as they were hewn out, rolled down upon us, and, shooting past, fell over the brink of the *arête* by which we had been ascending, and were precipitated into the fathomless abyss beneath ... We had to be on the alert to

avoid these rapid missiles, which came accompanied by a very avalanche of dry and powdery snow. I could not help being struck with the marvellous beauty of the barrier which lay, still to be overcome, between us and the attainment of our hopes. The cornice curled over towards us, like the crest of a wave, breaking at irregular intervals along the line into pendants and inverted pinnacles of ice, many of which hung down to the full length of a tall man's height ... They cast a ragged shadow on the wall of ice behind, which was hard and glassy, not flecked with a spot of snow, and blue as the "brave o'er-hanging" of the cloudless firmament. They seemed battlements of an enchanted fortress, framed to defy the curiosity of man, and to laugh to scorn his audacious efforts.

Lauener chose his course well, and had worked up to the most accessible point along the whole line, where a break in the series of icicles allowed him to approach close to the icy parapet, and where the projecting crest was narrowest and weakest. It was resolved to cut boldly into the ice, and endeavor to hew deep enough to get a sloping passage on to the dome beyond. He stood close, not facing the parapet, but turned half round, and struck out as far away from himself as he could. A few strokes of his powerful arm brought down the projecting crest, which, after rolling a few feet, fell headlong over the brink of the *arête*, and was out of sight in an instant ... We all looked on in breathless anxiety; for it depended upon the success of this assault whether that impregnable fortress was to be ours, or whether we were to return, slowly and sadly, foiled by its calm and massive strength. Suddenly, a startling cry of surprise and triumph rang through the air. A great block of ice bounded from the top of the parapet, and before it had well lighted on the glacier, Lauener exclaimed, "I see blue sky" ... A thrill of astonishment and delight ran through our frames. Our enterprise had succeeded! We were almost upon the actual summit. That wave above us, frozen, as it seemed, in the act of falling over, into a strange and motionless magnificence, was the very peak itself. My left shoulder grazed against the angle of the icy embrasure, while, on the right, the glacier fell abruptly away beneath me, towards an unknown and awful abyss; a hand from an invisible person grasped mine; I stepped across, and had passed the ridge of the Wetterhorn!

The instant before, I had been face to face with a blank wall of ice. One step, and the eye took in a boundless expanse of crag and glacier, peak and precipice, mountain and valley, lake

and plain. The whole world seemed to lie at my feet. The next moment, I was almost appalled by the awfulness of our position. The side we had come up was steep, but it was a gentle slope, compared with that which now fell away from where I stood. A few yards of glittering ice at our feet, and then, nothing between us and the green slopes of Grindelwald, nine thousand feet beneath ... I am not ashamed to own that I experienced, as this sublime and wonderful prospect burst upon my view, a profound and almost irrepressible emotion — an emotion which, if I may judge by the low ejaculations of surprise, followed by a long pause of breathless silence, as each in turn stepped into the opening, was felt by others as well as myself. Balmat told me repeatedly, afterwards, that it was the most awful and startling moment he had known in the course of his long mountain experience. We felt as in the more immediate presence of Him who had reared this tremendous pinnacle, and beneath the “majestic roof” of whose deep blue heaven we stood, poised, as it seemed, half way between the earth and sky.

Wills' "High Alps."

PIEDMONT.

So astonishingly great is the hospitality of the Piedmontese, that by virtue of two letters I was able to travel for two weeks and some days without ever, except on one occasion, seeing the inside of an inn. The inns of the country are generally of the most wretched description ; hence the eagerness of the people to save the travellers from the miseries of their accommodation ; hence the readiness of the tourist to waive ceremony and accept kindly what is offered.

Every one is acquainted with the outburst of generosity of the peasant girl who pressed a king to partake of some apples, assuring him that what he did not take “would be given to the pigs.” In the same spirit as I threw a word across the hedge to a group of rustics busy gathering in their walnuts, to congratulate them on the bountiful harvest ; “Yes,” they cried out joyously, holding up their baskets or aprons, “have some ! have some ! there is enough for cats and dogs this year.”

Notwithstanding this, Piedmont for the last six or seven years has been anything but the land of plenty ; and as you travel through the country, you feel sure that your hosts freely give what they can scarcely spare. You, who live in dull sober England, hardly know the effects of the war that earth and sky, air and water, here wage against man and his works.

The Alps on the Italian side are stripped of the glorious timber which used to clothe them, almost within the reach of man's memory ; but the valleys especially of Piedmont are luxuriant with the richest vegetation... Everywhere along the mountain slope, at the outlet of every glen and dell, and half-way down the plain, you have such walnut and chestnut trees as need fear no comparison with the glorious English oak, or the prouder New England elm ; the walnut tapering up to the sky and then arching its far reaching branches all round umbrella wise ; the chestnut hugging the parent earth lovingly, and spreading its huge foliage almost horizontally so as to mantle the hill-slope from end to end. Well, all along the picturesque road from Ivrea to Biella, I have seen hundreds and thousands of magnificent trees, chiefly tall pine-like walnut trees, torn up by the roots, and crushing vines and maize-fields under their weight, the wreck and havoc of the storm. I imagine, there is scarcely a house, barn, or church, in the whole territory of Biella, that has not been in need of a completely new roof, every tile of the old one being shattered to fragments by the pitiless hail... There is hardly a garden but has to be altogether restocked with new plants, as the few old ones left standing are so scorched and blasted as to allow no hope of recovery. With all this, however, the land of the sun bears yet a cheering look, and every peasant greets you with a merry face ... Anything more striking than the calmness, soberness, and earnestness of those good generous people, I have seen nowhere. They have a serious, silent, modest, docile, and somewhat shy look, which seems to me akin to the English character. They are only gentler and meeker, less self-confident, than the fortunate builders of the "empire on whose boundaries the sun never sets." They are by no means loud, but thoughtful ; and at any rate no talkers or gesticulators like the rest of the Italians. No French swagger, no Lombard or Tuscan chattiness and frivolity, about them.

With all its Icelandic and Spitzbergian temperature, I would not have you judge too harshly of the climate of North Italy. The climate of Northern Italy (by which I mean the country between the Alps and Apennines, for that of Genoa and Nice on the fickle sea is quite different, in my estimation far worse) is, however, severe ; an honest climate, always in earnest. It scarcely ever rains here but it pours. Summer droughts and winter frosts hardly deem it worth while to set in, unless they mean to last for at least six weeks or two months... Of every change in the weather you have fair warning, by a succession of un-

mistakable atmospheric phenomena. You need not take your umbrella, unless clouds have been gathering, and storms brewing over your head for three days. Winter is winter, and summer is summer, but we have a spring also, a sweet progressive spring, and a soft lingering autumn... We are shut in by a mountain chain on either side. The stagnant air secures constancy and regularity to the climate. It is generally a three days' perfect hurricane of north wind that ushers in such a sharp frost as we are at the present moment enjoying... Down from all the Russian steppes, and across all the German forests, that blustering *Tramontana* sweeps far and wide: it meets with a temporary check at the foot of the Alps; it takes breath and gathers strength at that frail barrier, like a mustering horde of barbaric invaders; it then overleaps it at one bound; it acquires a tremendous momentum, as from the bare summit it rolls down like an avalanche upon the devoted southern land, madly roaring and rioting, blighting and blasting, savagely howling about us and our dwellings, as if it meant to blow the chimneys off our roofs, and the very ears off our heads ... It thus storms for three, may be for nine days, then it suddenly subsides, leaving earth and sky indescribably pure and fresh, and the air unspeakably still, an open field for the frost to do its slow, and sure, unceasing, unrelenting work in. Then in due time, and with the punctuality of clock-work, the time comes for the *Scirocco* and the other hot-breathing maritime gales. All at once down come snow and ice; all at once down come flooding streams and melting mountains. A rapid yet gradual transition ensues, from the frigid to the torrid zones. Russia for three months, for three months Africa, but a temperature of paradise during the quarters between the two extremes. *Gallenga.*

SARDINIA.

THE people of Sardinia are not less picturesque than the island. Their costume, their customs, their amusements, are all ready to the hand of a melodramatist or ballet-composer. They are handsome, after the dark style of the South, half-Moorish, half-Italian. Among the men, beards, moustaches, and long, flowing dark locks frame their dusky, fierce, black-eyed visages. In figure they are slender and active, and like all foresters and pastoral tribes.

The Sardes are almost all born poets, after a kind; it is calculated that one in sixty-nine can improvise where only one in

thirty-eight can read ; for, to improvise, the art of reading is no more needful than to Welsh bards or Highland pipers of ancient time.

Sheep constitute the chief wealth of the district of Gallura, of which Tempio is the centre. When the wife or daughter of a flock-owner has a quantity of wool to be plucked or combed ready for the distaff, she invites all the girls of the neighbourhood to come and help her, and all the bachelors to help them, as well as a few friends to look on. For the entertainment of the company she provides vases of flowers, a supply of bonbons, and rosoglio, with music for dancing when the work is done. An ounce of bonbons is considered a fair return for one hundred pounds of wool.

We meet in Mr. Tyndale's Travels with some amusing instances of hospitality and ignorance. But the ignorance may be matched in peasants' cottages in any county of England. For instance :

On one occasion the traveller having, according to the custom of the country, sent up his guide to a priest's house to ask the favor of a night's lodging, received for answer that the padre did not choose to admit him. While inquiring into the particulars of so unusual an answer, the priest peeping out of his glassless window, perceived that the stranger was neither a Sarde nor Piedmontese, and descending hastily, overtook him, and asked in a most courteous manner, if it was he who was inquiring for a night's lodging. To which the Englishman answered hastily that it was ; but he was then going to seek a more hospitable house. The priest, with great emotion, began a series of apologies, seized the bridle of the traveller's horse, led him back to his door, and almost pulled him off the saddle into his house.

It seemed that the guide was not a perfectly respectable character, and there had been some cases of vendetta, a lawless system of hereditary vengeance, in the neighbourhood. A comfortable supper and an agreeable night of conversation followed, constantly interrupted by apologies on the part of the priest for his rudeness... He was not aware that England was an island, and wished to know whether Britannia was a king or a town. He had heard of tea, but had never tasted it, and our traveller fortunately having a little with him, a brew was effected, of which the priest drank seven or eight cups, to the infinite terror of his servant, who fancied that her master was being poisoned. All the while the good priest could not believe that ships were sent all the way to China to fetch dried leaves.

We could give many more instances of Sarde hospitality to travellers among the higher classes, but one among the humbles will be sufficient: "In proceeding to the mineral springs of San Martin, I halted, for the purpose of learning my way, at an ovile or hut of a shepherd. He was preparing to kill a lamb for his family, and offered to accompany me as soon as he had finished. His hut was composed of a mass of great stones, arranged in a circle of about twelve feet in diameter and eight feet high, with a conical roof of sticks and reeds uniting in the apex... A small piece of matting was the bed for the whole family, a few ashes were burning in a hole in the ground; a bundle of clothes, some flat loaves of bread, and three or four earthen pans completed the inventory of his goods and chattels. His dogs and pigs basked contentedly at the entrance of the ovile; his sheep fed on the adjoining hill. In less than five minutes the all-potent Sarde knife had dissected the lamb, and we then proceeded together to San Martin, about three miles distant. After sharing my light meal, I offered him a trifle for his trouble, but he indignantly refused it, and on leaving gave me an adieu with a fervent and courteous demeanour which the highest and noblest could not have excelled."

Until recently justice has been unknown in the Sarde tribunals, which have been filled by strangers sent from the continent, who counted on bribes rather than honest fees for their living. All this is altered, and is in course of being reformed under the constitution, which for the first time gave the Sarde equal rights with the Piedmontese.

As a general rule, the Sardes of the plain and mountain in lonely districts prefer private arbitration to law, and are happy in their arbitrators, who are called saggi, or wise men. A feast, when the decision is given and reconciliation effected, is the only expense to which the disputants are put: the saggi are satisfied with the honor of their authority. Through the mediation of these good old men, lawsuits which would have occupied years and devoured a patrimony, and caused a vendetta which might have exterminated whole families, are settled in a day. Public opinion supports the decisions... In what we may call an action for breach of promise of marriage, a young shepherd who was defendant demurred to the sentence. The saggi rose indignant from their seat under the wild olive, saying, "We have spoken and done justice;" and, saluting the spectators, turned to their homes. But the uncle of the shepherd, who was leaning against a knolled oak with his bearded chin resting on the back of his hand on the muzzle of his gun, started up, and extending his right hand to

the tribunal — “Stop, friends,” he exclaimed ; “the business must be finished this moment.” Then turning to his nephew, and putting his disengaged hand upon his chest, the other grasping his gun, he said to him, “Come, sir, instantly obey, or —” The shepherd no longer hesitated ; he sank upon his knees, and asked pardon of the saggi. Then his uncle demanded for him the hand of the maiden ; the betrothal took place ; and a feast and a dance, with improvised songs, followed.

The revolution of 1848, which gave to Piedmont a constitution, extended equal rights and privileges to the island of Sardinia. The recent liberal tariff has abolished all the customs’ duties with which Sarde produce was at one time specially burdened ... Lord Nelson wrote, in 1803 : “Sardinia is very little known ; it was the policy of Piedmont to keep it in the background, and it has been the maxim to rule its inhabitants with severity, loading its produce with such duties as prevented their growth. I will only mention one instance as a proof. Half a cheese was seized because a poor man was selling it to our boats, and it had not paid the duty. Fowls, eggs, beef, and every article of food are most heavily taxed on export. The country is fruitful beyond idea, and abounds in cattle and sheep, and is adapted for corn, wine, and oil. In the hands of a liberal government there is no telling what its produce would amount to.”

Lord Nelson’s wishes have been realised ; Sardinia is in the hands of a liberal government. Nothing is now needed to make it the most flourishing island of its extent in Europe but roads and harbors, the extension of education, and the example and instruction of a few intelligent Lombardy landlords and farmers.

Household Words.

THE CAMPAGNA OF ROME.

PERHAPS there is no more impressive scene on earth than the solitary extent of the Campagna of Rome under evening light. Let the reader imagine himself for a moment withdrawn from the sound and motion of the living world, and sent forth alone into this wild and wasted plain. The earth yields and crumbles beneath his foot, tread he never so lightly ; for its substance is white, hollow, and carious, like the dusky wreck of the bones of men ... The long knotted grass waves and tosses feebly in the evening wind, and the shadows of its motion shake feverishly along the banks of the ruin that lift themselves to the sun-light. Hillocks of smouldering earth heave around him,

as if the dead beneath were struggling in their sleep; scattered remnants of mighty edifices, not one stone left upon another, lie upon them to keep them down ... A dull, purple, poisonous haze stretches level along the desert, veiling its spectral wrecks of massy ruins, on whose rents the red light rests like dying fire on defiled altars. The blue ridge of the Alban Mount lifts itself against a solemn space of green, clear, quiet sky. Watch towers of dark clouds stand steadfastly along the promontories of the Apennines. From the plain to the mountains the shattered aqueducts peer beyond, melt into the darkness like shadows and countless troops of funeral mourners passing from a nation's grave.

Ruskin.

The lower portions of the plain seem more like ravines, old dried up water-courses, or hollows which in the rainy season might fill with water and form small lakes, than anything else. Very little vegetation anywhere shows itself, except the grasses, which are heavy and abundant, indicating a fertile soil. Indeed, this is one of the unexpected aspects of the Campagna, that all over this uninhabited desert there are most unmistakable evidences of a soil which, with good cultivation, would support a dense population. Wherever the face of the country shows a broken bank, the earth is of that dark brown color, almost black, which gives assurance of mines of wealth below.

Scarce a tree is to be seen over its whole extent; or, if some low groups of forest trees are met with here and there, they are in the deep hollows, and hardly lift their heads above the general level of the plain. Shrubs of various kinds skirt the roads and climb up the sides of the ravines, and in the summer season wild flowers and roses of a thousand kinds contend with a luxuriant growth of brambles and weeds for the supremacy, and sometimes one and sometimes the other obtains the mastery, and gives its character to the scene.

Although the Campagna is rightly described as a wild and desert region, it is not without the occasional variety of a human face and form, and even a group of low half-ruined dwellings, not built or intended for the humble uses to which they are now devoted, but the crumbled remains of palace or castle of former days ... About these melancholy ghost-like ruins are sometimes seen a few of the inhabitants, men, women, children; the men clothed in sheep-skins in the form just stripped from the slaughtered animal—all pallid with the fearful disease of the plain, fever, and ague, the true malaria of Rome ...

You see them crouching down among their sheep and pigs in the sheltered nooks of brick walls where the sun beats down hottest, in the hope to supply in that manner the heat, which the northern breezes from the distant mountains carry away, and to prolong for a few days a miserable existence, which, for their own sakes, one would think could not terminate too soon.

This now long deserted and sterile region was once thriving and populous, as we know from history, and as must be inferred from the masses of ruin which lie everywhere scattered around ; ruin of no imposing character but the crumbled walls and foundations of crowds of building, all the particular and intelligible forms of which have long ago disappeared ... It was from these now idle and barren wastes that the mighty Capital once drew its supplies for its daily markets. Over these plains was once spread, also, a large population of the five or six millions that once, according to some, constituted the population of Ancient Rome, not more than a quarter of which could ever have been contained within Aurelian's walls ... Successive revolutions and the violences of war, at first compelled the frightened inhabitants to take shelter within the walls of the city, and then the lands being gradually deserted by them and left without cultivation, the exhalations became pestilential from dampness and the corruption of neglected vegetation, and in no long time these plains, once fruitful as a garden, became poisonous to the constitution, and to the eye a spectacle of mourning and horror. Among the ruins of villa, castle, and farm thus abandoned, there then lurked in safe retreat the robber and the assassin ; and from that day to this the passage of the Campagna has been unsafe.

Ware.



SOCIETY AT NAPLES.

NOBILITY is nowhere so pure as in a barbarous state. When a nation becomes polished, its nobles either intermarry with plebeians, as in England ; or they disappear altogether, as in France. Now Naples, in spite of all her fiddlers, is still in a state of barbarian twilight, which resisted the late vivid flash of philosophy ; and the nobility of Naples remains incorrupt. Though sometimes reduced to beg in the streets, still it is pure both in heraldry and opinion ; for nothing here degrades it but *mésalliance*, commerce, or a hemp rope.

In fact, these children of the sun are too ardent to settle in

mediocrity. Some noblemen rose into statesmen and orators in the short-lived republic; some fell gloriously; others have enriched literature or extended the bounds of science; a few speak with a purity foreign to this court; and not a few are models of urbanity. If you pass, however, from these into the mob of gentlemen, you will find men who glory in an exemption from mental improvement, and affect "all the honorable points of ignorance." In a promiscuous company, the most noted sharper or the lowest buffoon shall, three to one, be a nobleman.

In the economy of the noblest houses, there is something farcical. In general, their footmen, having only six ducats a month to subsist on, must, from sheer hunger, be thieves. A certain prince, who is probably not singular, allots to his own dinner one ducat a day. For this sum his people are bound to serve up a stated number of dishes, but then he is obliged to watch while eating, for if he once turn round, half the service disappears. But such jugglers as these find a match in his highness; for whenever he means to smuggle the remains of his meal, he sends them all out on different errands at the same moment, and then crams his pockets for supper... Nevertheless when this man gives an entertainment, it is magnificence itself. On these rare occasions he acts like a prince, and his people behave like gentlemen for the day. He keeps a chaplain in his palace; but the poor priest must pay him for his lodging there. He keeps a numerous household; but his officers must play with him for their wages. In short, his whole establishment is a compound of splendor and meanness — a palace of marble thatched with straw.

In this upper class, the ladies, if not superior in person, seem far more graceful than the men, and excel in all the arts of the sex. Those of the middle rank go abroad in black silk mantles, which are fastened behind round the waist, pass over the head, and end in a deep black veil; the very demureness of this costume is but a refinement in coquetry.

Even the lowest class enjoy every blessing that can make the animal happy — a delicious climate, high spirits, a facility of satisfying every appetite, a conscience which gives no pain, and a convenient ignorance of their duty. Here tatters are not misery, for the climate requires little covering; filth is not misery to them who are born in it; and a few fingerings of maccaroni can wind up the rattling machine for the day.

They are, perhaps, the only people on earth that do not pretend to virtue. On their own stage they suffer the Neapolitan of

the drama to be always a rogue. If detected in theft, a lazaron will ask you with impudent surprise, how you could possibly expect a poor man to be an angel? Yet what are these wretches? Why, men whose persons might stand as models to a sculptor; whose gestures strike you with the commanding energy of a savage; whose language, gaping and broad as it is, when kindled by passion, bursts into oriental metaphor; whose ideas are cooped indeed within a narrow circle in which they are invincible. If you attack them there, you are beaten. Their exertion of soul, their humor, their fancy, their quickness of argument, their address at flattery, their rapidity of utterance, their pantomime and grimace, none can resist but a lazaron himself.

On a people so fiery and prompt, I would employ every terror human and divine against murder; yet nowhere is that crime more encouraged by impunity. A mattress-maker called lately at the house where I lodged, with a rueful face, screeching, "Malora! Malora!" "What is the matter?" said my landlord. "My son, my poor Gennarro, has had the misfortune to fall out with a neighbour, and is now in sanctuary." "What! has he murdered him?" "Alas! we could not help it." "Wretch! were you an accessory too?" "Nay, I only held the rascal's hands while my poor boy dispatched him." "And you call this a misfortune?" "It was the will of God: what would you have?" "I would have you hanged. Pray, how have you escaped the gallows?" "Alas! it has cost me two thousand hard-earned ducats to accommodate this foolish affair." ... "And so the relations of the dead have compounded?" "No! no! the cruel monsters insisted on bringing us both to justice. You must know, one of the fellow's comrades is a turner, who teaches the prince royal his trade. This vile informer denounced me to his pupil, his pupil to the king, and the king ordered an immediate search to be made for me! but the police paid more respect to my ducats than to his majesty's commands ... We have now pacified all concerned, except a brother of the deceased, a malicious wretch, who will listen to no terms." "He does perfectly right." "Not if he consult his own safety. My Gennarro, I can assure you, is a lad of spirit." "Miscreant! would you murder the brother too?" "If it be the will of God, it must be done. I am sure we wish to live peaceably with our fellow citizens; but if they are unreasonable, if they will keep honest people away from their families and callings, they must even take the consequences, and submit to God's holy will." My landlord, on repeating this dialogue to me, added that the mattress-maker is much

respected in Naples, as an upright, religious, warm-hearted man, who would cheerfully divide his last ducat with a friend.

Forsyth.

ATHENS TO CORINTH.

THE position of Athens in regard to natural beauty is wonderfully fine. I concerned myself but little with the remains of the Temple of Athene, the fortifications, and the old caves of refuge still to be found here. These things are uninteresting and insignificant in comparison with the view which awaits us here, on the hill of Munychia ... Beneath us is the deep blue, sunlit sea, with *Ægina* and Salamis not far off, and the dim violet-colored rocks of Paros and Thermysra; at a greater distance, in wonderful clearness, the innumerable bays and mountains, and rocky projections of the far-stretching shores of the Peloponnesus ... And if we turn towards the land, the Attic plain lies before us in splendor and beauty, to describe which the forms and colors of the painter are powerless, much more these poor colorless and formless words ... The pillars of the Acropolis radiate towards us a golden splendor; the gleaming roofs of the houses of the city, and the resplendent whiteness of the high marble masses of the royal palace, introduce life and motion into the calm repose of the landscape. Close below us, the silver-grey leaves of the fresh olive grove, through which, here and there, the glittering waves of the Cephissus appear, form, with their changeful play of color, an effective middle ground, which gently interposes between the fresh blue of the sea and the gorgeous coloring of the city and the mountains ... The scenery around Athens presents a harmonious *ensemble* of the most distinct forms; it must necessarily have produced in the Athenians a clear and precise mode of thinking, and a keen sense for the well-developed and complete. Even to the most sceptical mind, it must become evident at last in what an intimate relation the Greek temple, Roman architecture, and the grand fulness in the forms of the Italian painters stand to the broad and calm forms of the Greek and Italian mountains. And how, on the other hand, the Gothic dome, and the whimsical, obstinate faithfulness to nature in the works of the old German masters, descending almost to portrait, corresponds in a similar manner to the capricious zigzag so frequently characterising German mountain scenery ... The heights which inclose the valley of Athens are not so near as to embarrass the eye of the spectator, nor are they so distant as to melt into indistinctness.

In the Athens of modern times, filthy huts are certainly

not wanting; yet by far the larger number of the houses in its two streets consists of two stories, presenting sometimes quite an elegant appearance. Here you find windows with glass panes, folding street doors, often balconies surmounted usually by an ornamental coping ... Here are the hops and coffee-houses; and if you saw the crowded barbers' hops, on a level with the street, and serving the Greeks of to-day, just as they did those of ancient times, as places of resort or gossiping and amusement; if you could look through the open doors and windows into the workshops of the hatters, shoemakers, and tailors, carrying on their business almost in the open air, you would find yourself in the midst of the same cheerful and noisy street-life which delights in Italy. Only, there is still greater variety here, and everything glitters in gayer and more glaring colors.

Among the women, a strict distinction is observed in regard to dress. That of the married and unmarried ladies of the upper classes—or, I should rather say, of those who live in the better parts of the town—is almost entirely European, excepting the small red fez, round which are wound the massive plaits of their luxuriant hair, which is preserved, with conscious coquetry, as a national symbol. In the remoter streets and corners again, that same Albanian costume prevails universally, which, with more or less striking variations, is found throughout the whole country....A long woollen gown, of a texture close enough to prevent the skin from shining through, flows from the neck down to the ankles, and is confined by a red girdle passing round the loins. Over this gown, and, like it, of a white ground, and of the same shape, they wear a shorter woollen garment, but with a long black stripe passing down the back from each shoulder. If it is a holiday garment, it has an embroidered border, red or black, according as the wearer is married or unmarried. The head is covered with a white scarf, draped in thoroughly antique style ... The costume of the women comes far nearer the dress of the ancient Greeks than that of the men. Down to this very day, the girdle which confines their garments is the boast of Greek women quite as much as in the times of Homer.

The road from Athens to Corinth is by Eleusis and Megara. At our side we have the sea with the rhythmic rise and fall of its waves, and Salamis and Ægina with the fine outlines of their rocky heights; and as we approach the isthmus, the picturesque coast of eastern Argolis opens gradually on the view ... Now we are lost in a mountain pass; then the gorge widens, and allows a glorious view of the blue mirror of the sea, and the mountains of Megara. After riding another half

hour, and suddenly rounding a shoulder of the hill, lo, the Bay of Eleusis! Here we have all the grandeur of the sea united with the attractiveness of a mountain-girt inland lake. The stripe of land along the coast, so renowned in ancient times for its fertility, forms a remarkably beautiful, semi-circular plain, shut in by gently rising hills. The bay sweeps inwards in one majestic unbroken curve; on the north side rise the terraced heights of Salamis; and at the western extremity we see the glittering roofs of Eleusis ... Then, for some time, we traverse a desolate plain with low underwood and wild olive trees, and at length espy Megara, a little cheerful-looking town, not far from the sea, with flat-roofed houses rising in terraces up the side of a hill cloven at the summit into two separate peaks, each of which was formerly crowned by an Acropolis ... The road gradually descends. A pretty valley, bounded on its east side by a continuous chain of undulating hills, conducts us to the isthmus of Corinth. Here and there are shady groups of trees, everywhere a profusion of dwarf firs, myrtles, and oleanders; but nowhere a trace of human industry ... On the whole road from Megara to the isthmus there is but one small hamlet, Kinetta, consisting of four troglodytic huts. The Corinth of to-day is but a small town, just struggling into importance, with a few thousand inhabitants. Only seven columns of a very old Doric temple remain to attest its ancient magnificence.

Hettner.

CONSTANTINOPLE.

EVEN if we don't take a part in the chant about "Mosques and Minarets," we can still yield praises to Stamboul. We can chant about the harbor; we can say and sing that nowhere else does the sea come so home to a city: there are no pebbly shores, no sand bars, no slimy river-beds, no black canals, no locks nor docks to divide the very heart of the place from the deep waters ... If being in the noisiest mart of Stamboul, you would stroll to the quiet side of the way amidst those cypresses opposite, you will cross the fathomless Bosphorus; if you would go from your hotel to the Bazaars, you must pass by the bright blue pathway of the Golden Horn, that can carry a thousand sail of the line. You are accustomed to the gondolas that glide among the palaces of St. Mark, but here at Stamboul it is a hundred-and-twenty-gun ship that meets you in the street ... Venice strains out from the steadfast land, and in old times would send forth the Chief of the State to woo and wed the reluctant sea; but the stormy bride of the Doge is the

owing slave of the Sultan: she comes to his feet with the easures of the world; she bears him from palace to palace; by some unfailing witchcraft, she entices the breezes to follow her*, and fan the pale cheek of her lord; she lifts his armed ravies to the very gates of his garden; she watches the walls of his Seraglio; she stifles the intrigues of his Ministers; she quiets the scandals of his Court; she extinguishes his rivals, and ushes his naughty wives all one by one. So vast are the wonders of the Deep! .

All the while that I stayed at Constantinople the plague was revailing, but not with any violence; its presence, however, was a mysterious and exciting, though not very pleasant, interest to my first knowledge of a great oriental city; it gave tone and color to all I saw and all I felt—a tone and a color sombre enough, but true, and well befitting the dreary monuments of past power and splendor... With all that is most truly oriental in its character the plague is associated: it dwells with the faithful in the holiest quarters of their city. The coats and the hats of Pera are held to be nearly as innocent of infection as they are ugly in shape and fashion; but the rich furs and the costly shawls, the broidered slippers and the golden saddle-cloths, the fragrance of burning aloes and the rich aroma of patchouli—these are the signs that mark the familiar home of plague... You go out from your queenly London, the centre of the greatest and strongest amongst all earthly dominions—you go out thence, and travel on to the capital of an Eastern Prince: you find but a waning power, and a faded splendor, that inclines you to laugh and mock; but let the Angel of Plague be at hand, and he, more mighty than armies, more terrible than Suleyman in his glory, can restore such pomp and majesty to the weakness of the imperial city, that if, *when HE is there*, you must still go prying amongst the shades of this dead empire, at least you will tread the path with seemly reverence and awe.

The Osmanlees speak well. In countries civilised according to the European plan, the work of trying to persuade tribunals is almost all performed by a set of men, who seldom do anything else; but in Turkey, this division of labor has never taken place, and every man is his own advocate. The importance of the rhetorical art is immense, for a bad speech may endanger the property of the speaker, as well as the soles of his feet, and the free enjoyment of his throat. So it results that

* There is almost always a breeze either from the Marmora, or from the Black Sea, that passes along the course of the Bosphorus.

most of the Turks whom one sees have a lawyer-like habit of speaking connectedly and at length... Even the treaties continually going on at the bazaar for the buying and selling of the merest trifles are carried on by speechifying, rather than by mere colloquies, and the eternal uncertainty as to the market value of things in constant sale gives room enough for discussion. The seller is for ever demanding a price immensely beyond that for which he sells at last, and so occasions unspeakable disgust in many Englishmen, who cannot see why an honest dealer should ask more for his goods than he will really take: the truth is, however, that an ordinary tradesman of Constantinople has no other way of finding out the fair market value of his property... His difficulty is easily shown by comparing the mechanism of the commercial system in Turkey with that of our own people. In England, or in any other great mercantile country, the bulk of the things bought and sold goes through the hands of a wholesale dealer, and it is he who higgles and bargains with an entire nation of purchasers, by entering into treaty with retail sellers. The labor of making a few large contracts is sufficient to give a clue for finding the fair market value of the goods sold throughout the country; but in Turkey, from the primitive habits of the people, and partly from the absence of great capital and great credit, the importing merchant, the warehouseman, the wholesale dealer, the retail dealer, and the shopman, are all one person... Old Moostapha, or Abdallah, or 'Iladgi Mohamed waddles up from the water's edge with a small packet of merchandise, which he has bought out of a Greek brigantine, and when at last he has reached his nook in the bazaar, he puts his goods *before* the counter, and himself *upon* it; then laying fire to his tchibouque, he "sits in permanence," and patiently waits to obtain "the best price that can be got in an open market." This is his fair right as a seller, but he has no means of finding out what that best price is, except by actual experiment... He cannot know the intensity of the demand, or the abundance of the supply, otherwise than by the offers which may be made for his little bundle of goods; so he begins by asking a perfectly hopeless price, and then descends the ladder until he meets a purchaser. This is the struggle which creates the continual occasion for debate... The vendor perceiving that the unfolded merchandise has caught the eye of a possible purchaser, commences his opening speech. He covers his bristling broadcloths and his meagre silks with the golden broidery of oriental praises, and as he talks, along with the slow and graceful waving of his arms, he lifts his undulating periods, up-

holds, and poises them well till they have gathered their weight and their strength, and then hurls them bodily forward, with grave, momentous swing... The possible purchaser listens to the whole speech with deep and serious attention; but when it is over *his* turn arrives; he elaborately endeavors to show why he ought not to buy the things at a price twenty times larger than their value: bystanders attracted to the debate take a part in it as independent members—the vendor is heard in reply, and coming down with his price, furnishes the materials for a new debate... Sometimes, however, the dealer, if he is a very pious Mussulman, and sufficiently rich to hold back his ware, will take a more dignified part, maintaining a kind of judicial gravity, and receiving the applicants who come to his stall, as if they were rather suitors than customers. He will quietly hear to the end some long speech, that concludes with an offer, and will answer it all with that bold monosyllable "Yok", which means distinctly "No."

I caught one glimpse of the old Heathen world. My habits of studying military subjects had been hardening my heart against Poetry. For ever staring at the flames of battle, I had blinded myself to the lesser and finer lights that are shed from the imaginations of men... In my reading at this time, I delighted to follow from out of Arabian sands the feet of the armed believers, and to stand in the broad manifest storm-tract of Tartar devastation; and thus, though surrounded at Constantinople, by scenes of much interest to the "classical scholar," I had cast aside their associations like an old Greek grammar, and turned my face to the "shining Orient," forgetful of old Greece, and all the pure wealth she left to this matter-of-fact ridden world... But it happened to me one day to mount the high grounds overhanging the streets of Pera. I averted my eyes with the pomps of the city, and its crowded waters, and then I looked over where Scutari lay half veiled in her mournful cypresses. I looked yet farther, and higher, and saw in the heavens a silvery cloud that stood fast and still against the breeze: it was pure and dazzling white as might be the veil of Cytherea, yet touched with such fire, as though from beneath the loving eyes of an immortal were shining through and through. I knew the bearing, but had enormously misjudged its distance and underrated its height, and so it was as a sign and a testimony—almost as a call from the neglected gods, that now I saw and acknowledged the snowy crown of the *Mysian Olympus!*

Eöthen.

THE RAMAZAN.

THE more the intercourse between the different nations exerts its assimilating influence, the more interesting become the remaining traces of a distinct national and social life. In Europe this assimilating tendency has spread so far, that very little indeed remains; and railways and steamers efface more and more even the few traces which have been left hitherto, so that a man will soon be able to go to one end of Europe to the other without finding any difference in the appearance of the different countries ... In Turkey this cosmopolitan tendency has not yet succeeded so completely. There is, indeed, a rage in Stamboul for everything which is French. The picturesque Oriental costume is more and more giving way to ugly, straight-collared coats, and broad strapped trousers, the best specimens of which would disgrace even the shops of the Temple at Paris ... The beautiful ceilings carved in wood are disappearing in favor of wretchedly daubed flowers and trees; the comfortable divans running all round the walls, are giving way to straight-backed, *uneasy* chairs. But these innovations are scarcely known out of Stamboul, and even in the capital, there is a time when a kind of reaction takes place against this tendency, and Oriental life seems to revive for a time... This time is that of the Ramazan, with its days of fasts and its nights of feasts. Then everybody returns to the old style of living; knives and forks, tables and chairs, plates and napkins, are discarded, and all eat in the patriarchal way, out of one dish with their fingers... There are even people who abandon the raki bottle during that time, and go back again to the pure element. The mosques begin again to exert their attractions; and many a man you may see there, bowing down, who during eleven months of the year is making philosophical comments about the Koran.

This is, therefore, the most interesting time for a European, who can get by a stroll through the streets, more insight into the character of Mohammedan life than by the study of volumes. ... Although the external appearance of the people has been changed from what it was when Turkish dignitaries rode about in colossal turbans and richly embroidered kaftans, when the only carriage seen was the gaudily painted araba, with milk-white oxen, when swaggering Janissaries and Spahis made themselves conspicuous, and when the old ruins, through which you now walk, were in their prime,—enough still remains to give the whole picture that strange mysterious coloring which we connect in our minds with the idea of the East.

The day begins for the Moslem, in Ramazan, two or three hours before sunset. There are, indeed, toiling wretches, such as hamals and caiquejees, for whom the day begins as usual at daybreak, and grows only so much harder by the privations it imposes; but most people do not get up before noon, and bazaars and shops kept by Mohammedans, seldom open before the afternoon, even the office hours at the Porte do not begin before that time.

Two hours before sunset, all the town turns out into the streets. It is the time for making purchases of provisions, and for promenading. There is a long, and in most parts tolerably wide, street leading from the place in which the mosque of Sultan Bajazid stands, to the mosque of Sultan Mehmed ... This is the centre of all life. Originally a market, flanked on both sides with shops of every kind, it has in a great measure lost its original distinction. The shops have ceded their place to a nearly uninterrupted series of cafés, and the market is converted into a promenade ... A double and often treble row of carriages, with dark-eyed and thickly-veiled beauties, occupies the centre of the street, while the raised arcades in front of the shops are filled with women in gay cloaks.

The Rotten-row, or equestrian promenade, of Stamboul, is quite as characteristic, and even more picturesque, with its quaint balconies, graceful minarets, cypress-trees, and the shady little burial grounds, all illuminated by a gorgeous setting sun. ... This movement in the Sheik Zadi lasts till near sunset: as the shadows grow longer, one carriage after the other loses itself, the yashmaks and their wearers disappear, and only the smoke-thirsty people remain sitting on the little stools in front of the cafés, looking every minute at their watches, hating the sun, and preparing everything for the moment of the signal-gun ... The water is boiling on the brazier, ready for the coffee, the tumblers are filled with lemonade or any other decoction, and the greatest care is given to the preparations for smoking. It is a work of love, and helps to idle away the last half hour in pleasant anticipation of the coming pleasures. Every fibre is unravelled and put in judgment; steel, stone, and tinder are taken out; and the most impatient amuse themselves with lighting the tinder, and putting it out again half-a-dozen times ... At length the last rays of the sun have disappeared, and the gun in the court of the Seraskeriate announces it; a faint cry of satisfaction rises, drowned nearly as soon as it rises in a cloud of smoke or in a tumbler of water...As soon as their first cravings are satisfied, every one hastens to the "iftar," the first meal of the day. It is the only time when you can se

the usually abstemious Oriental gorging himself. Sweets follow meat, and meat follows sweets, alternately in endless succession. All the innumerable resources of the Turkish cuisine, nearly superior in inventiveness to the French, are put into requisition, so that thirty to forty dishes are no uncommon occurrence at a fashionable house. There is scarcely time to swallow all these dainties, wash the hands, and smoke a pipe, when the sharp cry of the Muezzin calls the Faithful to night prayers ... By this time the galleries of the mosques have been tastefully illuminated by lamps; the rows of windows under the cupola shine with the lights of the thousand lamps inside. All the cafés, grocers' shops, and eating-houses, all the numerous stands, with ices, lemonade, and sweetmeats, and the thousands of paper lanterns of the thousands of the crowd, with their numberless lights, lend to the whole scene a fantastic glare which surpasses the last and most exciting moment of the Roman Carnival.

This is the hour when one ought to go and see the mosques. The simple grandeur of some of these masterpieces of Eastern architecture is only to be felt, not to be described. That solemn abstraction from all surrounding earthly objects, which characterises the prayer of the Moslem, rises to a kind of stern enthusiasm, which strikes even the most sceptical with awe.

By the time prayer is over, the scene outside has even increased in animation. Everybody is visiting everybody, the crowd is so dense that you can scarcely pass through the main thoroughfares, all the seats in front of the cafés and shops are occupied, everywhere you hear chanting, singing, and music. The mosques have increased in light. On a rope stretched from one minaret to another, figures formed of ingeniously hung lamps, representing flowers, animals, birds, ships, and other objects, swing about high in the air ... A thousand invitations to buy, lure the passers-by to the shops, and mix with the hum of the busy crowd. And all this host, without anybody to direct its movements, is orderly and quiet; no pressing or jostling, no acute noise or excess. This is, perhaps, the most wonderful part of the whole, and gives to the scene an air of mystery which impresses you almost with the belief that you are witnessing the thousand and second of the "Arabian Nights."

"In and Around Stamboul."

THE ENGLISHMAN AND THE ORIENTAL.

I THINK I should mislead you, if I were to attempt to give the substance of any particular conversation with Orientals.

A traveller may write and say that, "The Pasha of So-and-So was particularly interested in the vast progress which has been made in the application of steam, and appeared to understand the structure of our machinery: that he remarked upon the gigantic results of our manufacturing industry; showed that he possessed considerable knowledge of our Indian affairs, and of the constitution of the Company, and expressed a lively admiration of the many sterling qualities for which the people of England are distinguished." ... But the heap of common-places thus quietly attributed to the Pasha will have been founded perhaps on some such talking as this:—

Pasha.—The Englishman is welcome; most blessed among hours is this, the hour of his coming.

Dragoman (to the Traveller).—The Pasha pays you his compliments.

Traveller.—Give him my best compliments in return, and say I'm delighted to have the honor of seeing him.

Dragoman (to the Pasha).—His Lordship, this Englishman, Lord of London, Scorer of Ireland, Suppressor of France, has quitted his governments, and left his enemies to breathe for a moment, and has crossed the broad waters in strict disguise, with a small but eternally faithful retinue of followers, in order that he might look upon the bright countenance of the Pasha among Pashas—the Pasha of the everlasting Pashalik of Karagho-lookoldour.

Traveller (to his Dragoman).—What on earth have you been saying about London? The Pasha will be taking me for a mere cockney. Have not I told you *always* to say, that I am from a branch of the family of Mudcombe Park, and that I am to be a magistrate for the county of Bedfordshire, only I've not qualified, and that I should have been a Deputy-Lieutenant, if it had not been for the extraordinary conduct of Lord Mountpromise, and that I was a candidate for Boughton-Soldborough at the last election, and that I should have won easy if my committee had not been bribed. I wish that if you *do* say anything about me, you'd tell the simple truth.

Dragoman—[is silent].

Pasha.—What says the friendly Lord of London? is there aught that I can grant him within the Pashalik of Karagho-lookoldour?

Dragoman (growing sulky and literal).—This friendly Englishman, this branch of Mudcombe, this head-purveyor of Boughton-Soldborough, this possible policeman of Bedfordshire, is recounting his achievements and the number of his titles.

Pasha. — The end of his honors is more distant than the ends of the earth, and the catalogue of his glorious deeds is brighter than the firmament of heaven !

Dragoman (to the Traveller). — The Pasha congratulates your Excellency.

Traveller. — About Boughton-Soldborough ? Does he ? — but I want to get at his views, in relation to the present state of the Ottoman Empire ; tell him the Houses of Parliament have met, and that there has been a speech from the throne pledging England to maintain the integrity of the Sultan's dominions.

Dragoman (to the Pasha). — This branch of Mudcombe, this possible policeman of Bedfordshire, informs your Highness that in England the talking houses have met, and that the integrity of the Sultan's dominions has been assured for ever and ever by a speech from the velvet chair.

Pasha. — Wonderful chair ! Wonderful houses ! — whirr ! whirr ! all by wheels ! — whiz ! whiz ! all by steam ! — wonderful chair ! wonderful houses ! wonderful people ! — whirr ! whirr ! all by wheels ! — whiz ! whiz ! all by steam !

Traveller (to the Dragoman). — What does the Pasha mean by that whizzing ? he does not mean to say, does he, that our Government will ever abandon their pledges to the Sultan ?

Dragoman. — No, your Excellency, but he says the English talk by wheels, and by steam.

Traveller. — That's an exaggeration ; but say that the English really have carried machinery to great perfection ; tell the Pasha (he'll be struck with that), that whenever we have any disturbances to put down, even at two or three hundred miles from London, we can send troops by the thousand to the scene of action, in a few hours.

Dragoman (recovering his temper and freedom of speech). — His Excellency, this Lord of Mudcombe, observes to your Highness, that whenever the Irish, or the French, or the Indians rebel against the English, whole armies of soldiers, and brigades of artillery, are dropped into a mighty chasm called Euston Square, and in the biting of a cartridge they rise up again in Manchester, or Dublin, or Paris, or Delhi, and utterly exterminate the enemies of England from the face of the earth.

Pasha. — I know it — I know all — the particulars have been faithfully related to me, and my mind comprehends locomotives. The armies of the English ride upon the vapours of boiling cauldrons, and their horses are flaming coals ! — whirr ! whirr ! all by wheels ! — whiz ! whiz ! all by steam !

Traveller (to his Dragoman). — I wish to have the opinion of

an unprejudiced Ottoman gentleman as to the prospects of our English commerce and manufactures; just ask the Pasha to give me his views on the subject.

Pasha (after having received the communication of the Dragoman). — The ships of the English swarm like flies; their printed calicoes cover the whole earth, and by the side of their swords the blades of Damascus are blades of grass. All India is but an item in the Ledger-books of the Merchants whose lumber-rooms are filled with ancient thrones! — whirr! whirr! all by wheels! whiz! whiz! all by steam!

Dragoman. — The Pasha compliments the cutlery of England, and also the East India Company.

Traveller. — The Pasha's right about the cutlery: I tried my scimitar with the common officers' swords belonging to our fellows at Malta, and they cut it like the leaf of a Novel. Well, tell the Pasha I am exceedingly gratified to find that he entertains such a high opinion of our manufacturing energy, but I should like him to know, though, that we have got something in England besides that. These foreigners are always fancying that we have nothing but ships, and railways, and East India Companies; do just tell the Pasha, that our rural districts deserve his attention, and that even within the last two hundred years there has been an evident improvement in the culture of the turnip; and if he does not take any interest about that, at all events you can explain that we have our virtues in the country: that we are a truth-telling people, and, like the Osmanlees, are faithful in the performance of our promises. Oh! and by the by, whilst you are about it, you may as well just say at the end that the British yeoman is still, thank God! the British yeoman.

Pasha (after hearing the Dragoman). — It is true, it is true: — through all Feringhistan the English are foremost and best, for the Russians are drilled swine, and the Germans are sleeping babes, and the Italians are the servants of Songs, and the French are the sons of Newspapers, and the Greeks are the weavers of lies, but the English and the Osmanlees are brothers together in righteousness.

Dragoman. — The Pasha compliments the English.

Traveller (rising). — Well, I've had enough of this. Tell the Pasha, I am greatly obliged to him for his hospitality, and still more for his kindness in furnishing me with horses, and say that now I must be off.

Pasha (after hearing the Dragoman, and standing up on his Divan). — Proud are the sires, and blessed are the damis of the horses, that shall carry his Excellency to the end of his pros-

perous journey. May the saddle beneath him glide down to the gates of the happy city like a boat swimming on the third river of Paradise. May he sleep the sleep of a child, when his friends are around him ; and the while that his enemies are abroad, may his eyes flame red through the darkness— more red than the eyes of ten tigers ! — farewell !

Dragoman. — The Pasha wishes your Excellency a pleasant journey.

So ends the visit.

Eöthen.

DESCRIPTIVE TRAVEL.

AFRICA.

THE ARAB OF THE DESERT.

the Arab of the Desert, the lord of the tent, is meant he o, leading a wandering life, is never more than a fortnight three weeks without a change of dwelling-place, and who is only once a year to the tiresome Tell to purchase corn. is cavalier, hunter, and warrior combined, is a man of dry i wiry constitution, with sunburnt countenance and well portioned limbs, tall, but nevertheless setting but little value the advantages of lofty stature—"the skin of a lion on the ck of a cow"—unless it be accompanied by address, agility, od health, vigor, and, above all, by courage. Still, while teeming courage thus highly, he pities, but never despises or ults, those who have "no liver." It is not their fault. Allah ; not willed it... The Desert Arab practises extreme sobriety ; , accommodating himself to all sorts of circumstances, he l not neglect any opportunity of feasting luxuriously and ntifully. His daily food is simple and unvaried; but he ws how to entertain his guests worthily when occasion ree... When el-ouda, or the annual fête of a friendly tribe ves, he will not insult his acquaintance by neglecting to them; and, were it eighty or a hundred miles off, go there ust, to fill his stomach and cheer his friends. On the other , they are well aware that he will cheerfully return the liment, and that they have not to do with a rascally town- , the whole amount of whose hospitality consists in the f four feet square as a sitting place, a pipe of tobacco, cup of coffee, sugared or not, after abundance of prelimi- eech.

the Arab of the Desert everything concurs to a power- ifestation of exterior life. He is sinewy, hardened, lthough occasionally of vigorous appetite. His visual sure and piercing. At five or six miles' distance, he at he can distinguish a man from a woman; at ten or iles, a drove of camels from a flock of sheep... Nor is ty brag; the extent and clearness of his sight are as with sailors, by the incessant habit of looking

immense and naked areas. Nevertheless, diseases of the eyes are frequent; the reflection of the sun's rays, the perspiration and dust, are the cause of many ophthalmic complaints, and blind and one-eyed people are numerous in many localities of the Desert... The veritable grand seigneur, the chief of importance, rarely quits the saddle, and scarcely ever goes on foot; he wears boots and clumsy shoes. The man of the common people is an indefatigable pedestrian; in a day's journey he will traverse incredible distances... His ordinary pace is the gymnastic step; he styles it himself the dog's trot. Generally, in a flat country, he takes off his shoes, in order to go more quickly and conveniently: also to spare them; consequently, all such individuals have the feet of antique statues, broad, well-planted on the ground, and with the great toe well set apart... Corns are unknown to them; and more than once, a Christian who had joined a caravan on pretence of being an Arab, has been expelled from it, betrayed by this infallible sign. The soles of an Arab's feet acquire such a degree of hardness as to resist all injury from sand or stones; a thorn will sometimes penetrate the horny skin without their being aware of it.

Notwithstanding, in the Desert proper, during the great heats of summer, the sand acquires so high a temperature that to walk barefoot is impossible, even for Arabs; and they are obliged to shoe the horses also, if they wish to avoid serious injury to their hoofs. The fear of the lefâ, a species of viper whose bite is mortal, likewise compels them to wear slippers which reach above the ankle... The most common foot complaints are the cheg-gags, or cracks, which are cured by anointing the part and cauterising it with a red-hot iron. Sometimes these cracks are so broad and deep that they have to be sewed up, which is done with the sinews of the camel dried in the sun and divided into threads as fine as silk, or with camel's hair stretched to make it thinner. All the dwellers in the Desert employ these threads to mend their saddles, their bridles, and their wooden trenchers; everybody carries about with him, by way of housewife, a bunch of these threads, a knife, and a darning-needle.

Some Arabs turn their pedestrian powers to good account as a profession; such are the runners, the bearers of messages, who gird themselves tightly with a runner's-belt. Those called rekass undertake urgent affairs. In four days they will perform a journey which would take an ordinary runner ten days to accomplish. They scarcely ever stop; when they feel the want of repose, they count sixty breaths, and then start off again... A rekass who has run sixty leagues, or a hundred and twenty miles, and has been paid four francs or three shillings and four-

pence for his trouble, considers that he has been handsomely rewarded. This arises from the scarcity and value of coin, the greater part of the necessaries of life being procurable, without buying or selling, by barter only... In the Desert, an extraordinary courier travels night and day; only sleeping two hours out of the four-and-twenty. When he lies down, he ties to his foot a piece of rope of a certain length, the end of which he sets on fire. When the rope is on the point of being completely consumed, the heat of the burning hemp awakes him.

If a Saharian is, ever so little, in easy circumstances, he does absolutely nothing. To work would be a disgrace. He goes to reunions, to meetings of the djemâa. He hunts, rides about, inspects his flocks, and says his prayers. His sole occupations are political, warlike, or religious in their nature. To plough, reap, or garden, is no business of his; such ignoble pursuits belong to chicken breeders who live in ksours or fixed habitations... In a great and grand tent, the labors of the interior are confided to negro-slaves, who are cheap and numerous. The negresses fetch wood and water, and prepare the meals. The proverb says: "He who has no negress, and does not sleep on a bed, has a grudge borne against him by Misery"... In a tent of moderate means, the work is left to the wives. They have to milk the ewes and camels, with the help of the herdsman, to make butter, to grind corn, to saddle and unsaddle the horse, to put on his horse-cloth, to give him drink and barley, to hold the stirrup when the lord and master gets on horseback or off... They weave beds, cushions, baggage-sacks, woollen stuffs dyed red, blue, and yellow, the curtains which separate the men from the women, camels' pack-saddles, bag-pipes, wallets, horse-thongs, shackles, nets to keep lambs from ewes whose milk is tainted, ropes of wool, of camels' and goats' hair, of palm-leaves, of aâlfâ. They prepare the goat-skins in which milk, butter, water are kept... They fabricate with clay, pottery, drink-vessels, ovens, and dishes in which to cook bread, kousou, and meat. When the home is shifted, they strike the roll it in a bundle, and put it on a camel's back. During migration, they walk on foot, often leading a mare with a pack ass for the night's bivouac. On arriving at their destination, they pitch the tents.

The Saharian, who has neither wife nor negress—who thinks at all—is less wretched than a wretch of the Tell. He makes and serves some great family, he mends sacks and bags; he roasts sheep; and, when his holidays are longer than usual, he roams from tent to tent, wherever there are

hosts to receive him, exchanging his services for remnants of food. A Saharian Arab, who thus depended on Providence, was asked how he managed to live: "He who created this mill," he replied, showing his white teeth, "can easily supply it with materials to grind."

The Arab of the Desert is proud of leading such a life, which, although exempt from the monotonous labor to which the inhabitant of the Tell submits, is not the less active and agitated, full of variety and unexpected turns. If the beard bleaches quickly in the Desert, it is not from the heat, the fatigue, the journeyings, and the combats of the Desert; but through the effects of its anxieties, its cares, and its sorrows. He only whose beard does not bleach, "has a large heart," knows how to practise resignation, and says, "It is the will of Allah!"... What a lesson to the worldling who is careful overmuch — who seems to act as if he thought he could take everything out of the world with him! And what an enemy to encounter, endowed with such moral as well as physical means of defence — a passive resistance which nothing can touch, after active hostilities have been tried in vain!

Household Words.

A MILITARY EXPEDITION AGAINST AN ARAB TRIBE.

THE order is given. The little expeditionary column is to start to-morrow. The soldier knows that the march is to the south, and he makes a wry face, because it is the month of August, the heat is excessive, and the fatigue will be exhausting. Expeditions in the mountains, or to the south, are the two descriptions by which the trooper who does pique himself on geographical knowledge, classes the operations in which he takes part.

The first day's march offers few incidents worthy of remark: they were off at the earliest break of day; every hour there is a five minutes' halt; about ten o'clock they halt an hour to breakfast. This is the grand halt, called by the brigade of Tlemcen, the coffee; because that was the only preparation which the soldiers have time to make with the aid of fire.

After the coffee, the march continues till four or five in the afternoon; the bivouac is fixed close to a stream of good water, near a wood; the men have travelled a dozen leagues. As yet, the troop wants for nothing; the foot-soldier is not too fatigued; he is gay, singing cheerful songs. The veterans exercise their wit at the expense of the less experienced... They do nothing but tell them to make the most they can of the pleasant water, the

good fires, the soft grass which stuffs their mattresses at night—in short, of all the delights of the mountain; for that they are soon going to make the acquaintance of a region where they will find nothing but sun and sand. They go to sleep at an early hour. One man in each mess remains awake, preparing the soup which his comrades will eat before starting next morning.

The second day, the trees are scattered further apart, the hills are lower, the springs and watercourses more rare; the troop has suffered some fatigue; but there is no great difference between to-day's and yesterday's events; the bivouac is good; the soldier, refreshed and plentifully fed, resigns himself contentedly to sleep.

The third day they start an hour before the dawn. They must push forward, for they begin to enter the sphere of events which may necessitate great activity. There is no time to lose. When the departure thus takes place by night, it is not rare to see the officers shivering with cold, even in summer, and wrap themselves in their winter clothes; whilst a few hours afterwards they are bathed in perspiration, and are almost exhausted and suffocated with heat.

The border of the Sahara is now approached; the ground is more sandy; nothing is to be seen, except a few wretched bushes at wide intervals. The party has great difficulty in finding water for the coffee, and none is met with till the evening, on the spot where the bivouac is installed. But, attention to the order given out! No tents are to be pitched; there is to be a three hours' rest, and then a night-march... There are hopes of surprising an enemy's camp the following morning. "That's it," murmurs the trooper; "the plot begins to thicken. We know what that means. We shall have to cut along like greyhounds; and, just as we think we are going to lay hands on something or other, we shall be nicely surprised to find there is nothing to surprise."

They march all night. What a long night it is! the foot-soldier, already fatigued when he recommenced his march, begins to try hard to bear up against it, and to make great efforts. The moment when he is completely overcome by sleep, is especially painful. In this somnolent condition, he slumbers, stumbles, wakes up, and slumbers again several times in the course of a minute; and this torture lasts for several hours... Yet this first trial passes off tolerably well; nevertheless, several men, five or six only, have been obliged to be carried in panniers by mules belonging to the hospital service... Self-esteem is excessively excited; emulation and esprit-de-corps is in all its energy; the Zouaves, the foot-rifles, the companies, and even the different

messes, strive which shall produce the fewest weary men. In the morning, as usual, there is no enemy to be found ; and yet, in spite of former repeated deceptions, they had been kept up by the hope of striking a decisive blow. One day's success, a victory, is a recompense for all previous suffering.

The camp is formed. The column will soon be able to take the repose of which it stands in great need. The aspect of the country is that of an immense plain, covered here and there with tufts of alfa, thyme, wormwood and other scrubby plants. The scanty brushwood hardly furnishes enough fuel to feed the kitchen fires ; the water is of moderate quality. The soldier has lost his gaiety, but the old hand still indulges in a little *raillery*.

The next day the march continues ; the men are warned that there will be neither wood nor water for the coffee ; every man, therefore, makes a little faggot, which he adds to the load upon his knapsack ; every mess, which we have seen consists of from seven to ten men, fills the great can and the boiler with water. Two men carry the latter by means of a tent-pole passed under the handle, and two others the can ... What a task for these foot-soldiers, already so hampered and heavy laden ! The day threatens to be hot ; and, before they have travelled three hours, they are fatigued. The water, incessantly agitated in the vessels which contain it, exposed to a high temperature, and receiving every instant the dust from without, becomes muddy. The men, impatient at the restraint imposed on their march by the necessity to carry a little water two by two, complain of their sufferings ... The troop stops to make the grand halt (the coffee), which ought to divide the day's march in two, and it is scarcely seven o'clock in the morning. At eight, they are obliged to start again ; the country becomes more and more wretched ; the heat is very great ; from time to time an old African may be heard to grumble. "Look out for squalls ; I feel my rheumatism, or my wound ; most certainly we are going to have the sirocco !" ... And in fact, before long the horizon is tinged with a reddish glare, similar to the light which gleams from a building on fire in the distance ; the atmosphere is filled with burning dust ; something is heard like the roar of the sea or the growling of thunder a great way off. There can be no mistake, it is it, the sirocco, the terror of the desert, which comes impetuous and scorching, licking up everything with its tongues of fire ... Men's palates are dried up, salivation becomes impossible ; the whole interior of the mouth is parched, and causes surprisingly painful sensations ; dust as fine as wood-ashes, raised by the march of the column and the wind, penetrates into the eyes and nostrils, which it chokes and clogs, as well as the ears.

Then begins a torture difficult to describe : what can be done ? They are just as far off from the water they have left behind them, as they are from that before them ; they must continue their march, happen what may. The soldier feels thirst instinctively ; he goes on, and on, but in what a state ! ... In the midst of sufferings such as these, when they are prolonged too far, men have been known to commit suicide ; others become temporarily delirious ; all are in a state of nervous excitement, of concentrated irritation, which gives to this troop of human beings the aspect of a band of maniacs ... With distorted features, with fierce, wild eyes starting from their sockets, the wretched foot-soldier is subjected to a terrible ordeal. This is the time for deceptive and tantalising visions ; every one has before his eyes the image of a cool spring at the foot of a shady tree ... "O ! " he says to himself, "if I can ever return to such or such a brook, I will pass my whole life beside it. What more can a man desire, when he is able to roll and revel in a cool stream, to make it trickle down his arms, to splash it with his hands, to drink it and enjoy it ? "

But what is passing in the vanguard ? It is not a rumor which spreads ; not a word has been spoken since the sirocco came on ; but there is a certain movement, a hurrying forward, which can only be the effect of the presence of water ... In fact, the detachment at the head has caught sight of a cistern which ought to contain water ; they approach—deception ! The little well is filled with the carcasses of sheep, come from a distance, probably driven by the south wind, to die upon a few drops of moisture ... Nevertheless, there is still perhaps a little liquid ; the first comers remove the dead sheep, to clear the spring, but all in vain ; a little brackish mud is all they can obtain, and such as it is they swallow it greedily. Meanwhile, the second detachment of men are sucking the wool of the dead sheep, in the hope that it may retain a little moisture.

A sort of mechanical movement in advance continues. The only care is to preserve sufficient strength to reach the springs as soon as possible ; the wind continues as high and as hot as ever ; it forces its way into the mouth, it hinders respiration, it blinds, it deafens, and a relentless sun darts its burning rays incessantly ... At last night comes on, bringing a slight relief. If the sirocco continues to blow, at least the burning sun has disappeared, and the men drag themselves as far as the water—the good and the beautiful water. How they caress it, how they plunge their arms and their heads into it ... Water, at this moment, is the first marvel of creation. But what a toil to reach it ; how many

comrades are still on the road, lying panting on the ground: how many will be a long, long time before they join the first arrivals!

The enemy is close by; and a fresh start must be made, in the hope of taking his camp. The column is apprised that it is perhaps on the point of deciding grave events, and of covering itself with glory. The general has appealed to the usual energy of his soldiers, and spoken of honor, of generous sentiments, and he can do what he likes with the worthy troopers ... Once more they are informed that the country to be traversed produces absolutely nothing: they must carry water and wood; and that is not all, for they must take charge of the grass which is to feed the oxen which accompany the little army. Under extraordinary circumstances like these, foot-soldiers will carry, besides their usual burden, water, two by two, a little faggot of wood, and a bunch of alfa for the beasts. This bunch, stuck on the top of the knapsack, rises higher than the men's heads, and forms a sort of mountain on their backs, which renders them invisible on three sides at least.

The troop is again obliged to have coffee early, in order to profit by the small supply of muddy liquid still remaining in the cans and the boilers. The march is resumed. We are completely in the Algerian Sahara, in one of its worst parts; nothing is to be seen but dust and sun ... Starting at two in the morning, we have had coffee by seven; about five in the afternoon we come upon some wells. There is to be a halt for two or three hours; just time enough to prepare some rice. In the dismal region where we are, water is found only in little wells placed close to each other, like organ-pipes, or the cells in a honey-comb ... And, what is extraordinary at first sight, some of these wells are salt, others not, without its being possible to remark any order in their disposition. Out of fifty wells, for instance, there will be thirty of one sort and twenty of the other, without any order in regard to their place on the ground.

Soon the excess of the fatigue begins to declare itself; press forward they must notwithstanding. Messages from the general are constantly repeated that the enemy is there, close by, and that they may capture his camp. Once in sight of it, one battalion will proceed to the right, another to the left, while the third will rush down upon him; the cavalry will cut off the enemy's retreat.

Then begins a veritable march of suffering. The men, unable to stand steadily on their crippled feet, limp onwards, supporting themselves mainly on the tips of their toes. It is difficult to describe the movements by which men, overwhelmed with

fatigue, contrive to drag their aching limbs along, by the power of their energetic will. It is at once the gait of an idiot, of a paralytic, and of a drunken man. At every instant the general is obliged to stop the vanguard, to allow the body of the column to join them. It takes a long time to make a little way.

Still, examples of courage abound. A rifleman showed symptoms of great weakness. Several times he was near falling; he was advised to ask for the use of a pannier. "Not I," he answered, "I have never yet mounted the mules, and I hope I shall not have to make their acquaintance." And he continued to drag himself along. At last he sunk, and fainted; he was carried to the hospital department. A few minutes afterwards, he was dead. The heroism of this simple rifleman, with no other motive than his soldierly reputation in the eyes of his comrades, made him struggle with fatigue to the death.

And thus the end of the day is reached, and the position approached which was indicated to the general as the site of the enemy's camp. At a final halt, the column is rallied as much as possible; every man prepares to make a supreme effort ... They advance in silence; being at the foot of the rising ground which hides the Arab encampment from view; they mount it, and behold — nothing. The vigilant and indefatigable Arabs have raised their camp, at the very first signal of their outpost. Only an hour ago they were here; witness the fires not yet extinguished, the skins of fresh-slain beasts, and numerous other recent traces ... With what, and how, is it possible to pursue them? They are all in high vigor, and have already made a good start in advance. Their opponents, certainly, would sustain a conflict, and do honor to their flag; but another forced march, under present circumstances, is an utter impossibility.

The general decides to bivouac, after having kept his column on the march for two-and-forty hours. The excursion continues several days longer, in the same style, and then they return, perhaps only to perform new peregrinations.

These sallies into the Desert are always paid for, after the return, by a great deal of sickness amongst the troops, mostly acute dysenteries or intractable fevers. *Household Words.*

C A I R O.

To-NIGHT I am steeped in the odoriferous dreaminess of Oriental romance, lounging arm-in-arm with the spirits of departed sultans, grand viziers, and chiefs of all the eunuchs, with the bright rays of an Egyptian moon lighting up mosque,

palace, bazaar, and fountain, and lending an additional grandeur to the outline of the silent pyramids, whose dark forms stand out so heavily against the soft bright sky, like giant sentinels watching over the changing destiny of the land of poetry, romance, and fairy legend.

The night is one of surpassing loveliness. The air so soft and bland, as only to be found in this lotus-land. Not one restless breath of balmy atmosphere is found to stir the feathery leaves of palms, or move a ripple on the moonlit lake... Insects on leaf, and flower, and shrub, are busy in the coolness of the night, and give forth cheerful sounds. Fountains, on many a marble terrace or flower-girt walk, send forth their cooling streams, whose rippling music lulls restless sleepers with its silvery notes... A fairy spell seems hanging on the city, whose teeming thousands might have been changed, by some sorcerer's magic, into dead blocks of marble; so still, and hushed, and motionless is the city of the Egyptian sultans!

I am moving through one of the principal open squares of Cairo alone, and regardless of cautions about Nubian bravos. I here behold beetling heavy doorways and sombre wickets, barely made visible amidst their darkness by the sickly twinkling of the baby lanterns. The walls are thick, the gates are massive, the bolts and locks are of Cyclopean magnitude, and carry on their rusty iron visages the features of dark tales and strange adventures.

There is a noble mosque, with its stately gilded minarets towering above the walls and gates below, and radiant with the brightness of the hour. Further on is a goodly building of polished marble. The moonbeams falling thickly on it, show how much time and skill the craftsmen of old Egypt have lavished on its form. It is a public fountain, where the halt and blind may rest and quench their thirst... Beyond it, again, adjoining a long low range of wall and peering gables, are a suite of baths of many-colored marble. Beautifully moulded by the carver's chisel, yet of less pretensions than the fountain, as a work of art. It stands forth grandly from the crowd of strange fantastic dwellings that cluster round about it.

There is a noble mansion of the Arabian Nights' description; massive, large, full of quaint doors and sly windows, doing their best to see, yet not be seen. It is shaded by lofty palms, whilst over the thick wall of the garden and terrace may be seen the bright flowers and verdant leaves of the pomegranate and citron... The principal gateway is slightly ajar, and without running too much risk of being bowstrung, or sacked, I venture to indulge my curiosity by peeping slyly

in through the narrow aperture left by the unclosed door. There are many lights inside,—lanterns, torches, and flambeaux, and by their combined light I obtain an uncertain vision of a busy multitude within a hall shut off from the courtyard by trellis-work and windows ... There is a sound of revelry within ; of merry voices, of stringed instruments, of dancing feet. They are evidently the domestic part of some establishment of quality, making holiday to celebrate some family event. Who can say but it may be the wedding-night of some vizier's daughter or son ?

The first living creature I have encountered this night in my perambulations is an old decrepit man on a donkey. Muffled in ample folds of muslin, it is difficult to say, save by his stooping form, whether he be aged or young...He starts at meeting me, at that unusual hour, but goes on his solitary way with the usual Moslem salutation, "God is great, and Mahomet is his prophet !" The voice dies away in the silent distance ; and I wend my weary way to the hotel by the grotesque principal square, to rest till daylight, and dream of caliphs, viziers, genii, hunchbacks, cadis, Ethiopians, and cheese-cakes.

It is mid-day, that is to say early in the forenoon by the hour, though high-noon judging from the intensity of the sun's rays ; I am equipped once more for a visit of Oriental research amidst the stone, and wood and dust of Grand Cairo ; and, forcing my hasty way through a regiment of bearded dragomen that are fain to make common property of me, I rush down the wide stairs into the courtyard, climbing upon the nearest of nine saddled donkeys that cut off all egress from the hotel...I give the creature the full length of the reins, with licence to bear me whither he wills. The animal is evidently quite up to the tastes of overland travellers, and trots away with me at a cheerful pace, towards and into the very busiest and narrowest thoroughfares.

I am now in the very heart of busy Cairo, with its many pulses beating quick and high about me. I am where I have for long years sighed to be, and whither in my dreams I have often wandered in imagination. But Cairo by moonlight and Cairo by sunlight—hot, glaring, suffocating high-noon—are, in appearance, two very different places. The softness, the coolness, the hushed romance of night hide themselves before the dusty heat of mid-day. The arabesque windows, the latticed portals, the high gables, the gaunt palms, the carved fountains that, by the pale light of the moon, appeared so richly picturesque, so artistically finished, are now broken, deformed, and thickly

coated with dust...The mosques are very much out of repair. The bazaars are fast falling to decay—I should say not let on repairing leases. The baths appear to stand in need of frequent purifying dips themselves. The motley crowd of merchants, devotees, fellahs, Copts, Turks, Arabs, eunuchs, buyers, and loungers are, on the whole, exceedingly doubtful about the skin and garments, and I cannot avoid feeling a strong conviction that a free application of whitewash and soap would greatly improve the appearance of the Cairo community and their tenements.

I could rein in my ambling donkey in the midst of this most picturesque street, and spend a good hour in an examination of the passers by, of the shops, their owners, and their frequenters. Why that sherbet shop at the corner of the narrow passage, with the Italian name over the doorway, the many-colored bottles in the windows, and the many-vestured gossipers within seated on divans, couches, and easy-chairs, drinking and listening to some quaint story or touching scandal, are alone a fertile study for a lover of the novel and the picturesque.

Of all the places of public resort in Cairo, excepting only the mosques, the Turkish bazaar is the most especially Oriental, and strikingly picturesque. Of great extent, it is divided into many different departments, in each of which goods and wares of a particular class are exposed for sale... In one or two lanes of shops there are only boots and slippers to be seen. Further on, mats, pillows, and cushions are the articles to be disposed of. In another quarter, clothes of every description are heaped up and stored in lofty piles. In another, jewellery and ornaments in utmost variety; further on, quaint copper and iron vessels; and yet further still, are the shops devoted to miscellaneous merchandise.

I know not which to admire most—the curious style and fashion of the shops, the strange varieties of their contents, the picturesque garb of the many dealers, or their Oriental gravity and seeming indifference to all worldly matters about them. There is a bearded old gentleman seated in great dignity on a soft ottoman, cross-legged, like a European tailor. He is a noble-looking merchant of fancy articles, tastefully clad in ample robes, with a hookah of extensive dimensions in his mouth.

Slipping from my saddle, and flinging the reins to the young Egyptian urchin who has charge of my donkey, I make my way to the solemn Turk, and, salaaming to him in such a way as my knowledge of the East enables me, I proceed to examine and admire his merchandise. An Oriental, whether in Egypt or Bengal, will never allow himself to be surprised at anything, nor to evince any of the most ordinary emotion. Accordingly,

I do not look for any outward and visible signs of pleasure, or even of attention, from the cushioned, turbaned Mahometan...If he is looking at me at all—and I feel extremely doubtful on the point—it must be my shoes that are occupying his attention; for his eyes are bent most provokingly downward, calmly and immovably. I roam over his long array of articles, from the richer silk purses of Persia, and the embroidered slippers from Morocco, to the fine steel-work of Damascus, glistening in the sunlight like Elkington's best electro-plated wares. I nod my head and smile in approval of the goods; and, as a reward for my Frankish friendliness, the Turk lifts up his deep dark eyes, mutters something in soft Arabic, and motions gracefully to an attendant in the rear.

In a moment a tiny cup of smoking black coffee is handed to me on a rich salver. I am too well versed in Oriental customs to decline the civility; besides which, I am anxious to ascertain if Mocha coffee so near the place of its production, is the delicious beverage it is said to be. Rumor has in this instance been a faithful chronicler; the coffee is of an exquisite aroma, though I confess my degenerate tastes desire a flavor of milk with it.

Pleased with my ready acceptance of his coffee, and flattered by my signs of approval, he hands me a richly-jewelled snuff-box, of which I also avail myself, though detesting snuff, and go off forthwith into a paroxysm of sneezes. Lastly, the mouth of his own particular hookah is handed to me.

I wish to depart, and look around me for some memento of the time and place. A purse, worked in silver lace on a rich silk velvet ground, takes my attention. Whilst selecting this, my new acquaintance brings forward, wrapped in many careful folds of soft cloth, a box of curious workmanship and rarer materials. Gold and silver, ivory, pearls and precious stones combine in its construction, and almost dazzle the eye with their brilliancy...It is a gem worthy the acceptance of princes. The world-famed Koh-i-noor might condescend to repose within its sparkling embrace. Cleopatra might have kept her love-letters in it. Alexander the Great could have condescended to call it his. The cost of it, I am assured through an interpreter, is a mere trifle for an English emir to give; only a few hundreds of pounds sterling...But, as I have a tolerably vivid idea that my spare hundreds will flow in a more westerly and practical direction, I descend to the purchase of an African purse, much to the disappointment of the Turkish merchant; who, however, does not condescend to evince the slightest emotion, even of contempt. I pocket my purse, and depart

laden with the ordinary stereotyped "Bismillahs," "In the name of the Prophet," &c., losing myself for another hour or two amongst the strange intricacies of rickety bazaars, dusty baths, and invalidated mosques. *Household Words.*

THE NILE.

THE sun was setting behind the pyramids when I embarked; but night and day make little difference in this country, and the former is only associated with the idea of rest when it happens to be too dark to see. It was bright moonlight as I mustered our swarthy crew on the river's edge ... Their countenances were full of hope and eagerness; and when their inspection was concluded, each kissed my hand and placed it on his head, in sign of devotion and fidelity. Their dress was principally a pair of loose cotton drawers reaching to the knee, a long blue shirt, and the red cloth cap called a "tarbooh," which on state occasions is wound round with a white turban, by the lower classes ... The crew consisted of a rais, or captain, a pilot, and eight rowers, whom with one exception we found good-humored, faithful, honest, and affectionate fellows. Two servants completed the equipment; one of whom, named Mahmoud, has the well-deserved character of being the best dragoman in Egypt.

Now the cable is loosed, a long towing-line is drawn along the shore by the sailors, the pilot perches himself on the spar deck, the rais squats at the bow, and the Nile ripples round our prow, as we start on a two months' voyage, with as little ceremony as if only crossing the river in a ferry-boat ... Palms, palaces, and busy crowds glide by; the river bends, and the wind becomes favorable, the sailors wade or swim on board; enormous sails fall from the long yards, like wide unfolding wings, the union-jack floats from the poop, and our private flag from the lofty spars. The pyramids of Gizeh on our right, the distant minarets of Cairo on our left, slowly recede; and the cool night breezes follow us, laden with perfumes from Rhoda, and faint murmurs from the great city ... The crew gather about the fire with "dark faces pale around that rosy flame," and discuss in a whisper the appearance of the pale stranger, who reclines on a pile of Persian carpets as contentedly as if he had been born and bred under the shadow of the palm ... It was a lovely night, with just wind enough to bosom out our snowy sails that heaved as with a languid respiration; the

moon shone forth in glory as if she were still the bright goddess of the land, and loved it well ... No longer do the white-robed priests of Isis celebrate her mystic rites in solemn procession along these shadowy banks ; no longer the Egyptian maidens move in choral dances through these darkling groves, with lotus garlands on their brow, and mirrors on their breasts, which flashed back the smile of the worshipped moon at every pant of those young bosoms, to typify that the heart within was all her own, and imaged but her deity ... There is no longer mystic pomp or midnight pageant in the land of Egypt ; we may look in vain for venerable priest or vestal virgin now. Yet, still does Isis seem to smile lovingly over her deserted shrines, and her pale light harmonises well with the calm dwellings of the mighty dead. These with their pyramids, their palaces, their temples, and their tombs, are the real inhabitants of this dreamy land.

This sailing on the moon-lit Nile has an inexpressible charm ; every sight is softened, every sound is musical, every air breathes balm. The pyramids silvered by the moon, tower over the dark palms, and the broken ridges of the Arabian hills stand clearly out from the star-spangled sky ... Distant lights gleaming faintly among the scarce-seen minarets, mark the site of Cairo, whose voices come at intervals as faintly to the ear. Sometimes the scream of a startled pelican, or the gurgle of some huge fish as he wallows in the water, may disturb the silence for a moment, but the calm that follows is only the more profound.

All nature seems so tranced and all the world wound in such a dream, that we can scarcely realise our own identity ; hark to the jackal's cry among the Moslem tombs ! See where the swarthy pilot sits, statue-like, with his turban and flowing beard ; those plains before us have been trod by Pharaohs ; these waters have borne Cleopatra ; yonder citadel was the home of Saladin ! We need not sleep to dream.

The night is gone — gone like a passing shadow : the sun springs suddenly into the throne of purple and rose-colored clouds that the misty moon has arrayed for him.

There is scarcely a dawn ; even now it was night ; then day, suddenly as a cannon's flash. Our boat lay moored to the bank. Mahmoud started to his feet, and shouted "Yallou ghe!" like a trumpet : till then the deck seemed vacant ; but then up starts the crew, who sleep in grave-like apertures between the planks, wrapped in their white capotes — a shroud-like garment that, on being raised with the figure, startles one like an apparition.

All nature seems to waken now; flocks of turtle-doves are rustling round the villages; dogs are barking the flocks to pasture, cocks are crowing, donkeys are braying, water-wheels are creaking, and the Moslems prostrate themselves in prayer, with forehead to the ground or hands crossed upon their bosoms—their eyes motionless, and their lips quivering with the first chapter of the Koran.

Crescent and Cross.

THE ABYSSINIAN.

THE opinion one may form of a people, from a few glaring instances of crime, or even from some deeds of an opposite nature, whether of valor or benevolence, ought not to be the criterion of an entire nation ... I should say of the Amhara soldiers, and frequently of the townspeople who have had much intercourse with them, that they are for the most part excessively vain. This is their chief and besetting sin. They are also rather cowardly, very deceitful and treacherous, grasping and covetous, vicious, debauched and thievish. While as to the peasantry of Tigre, they have as few sins or vices to be laid to their charge as any people under the sun ... The Abyssinians in general are patronisingly condescending towards their inferiors, and rather disposed to be servile when in the presence of a superior. They are at all times overflowing with complimentary speeches, which, however, must not always be taken as proceeding from the heart. The soldiers, in their manner, are as much given to ceremony as any one, with much less sincerity ... A soldier, sent perhaps on a message to you from some chief, will approach your room with the greatest possible appearance of respect. He will enter with his shoulders bare, and, as if feeling bashful before so much greatness, will remain for a few moments by the door, bowing low to your repeated salutations, and your request that he will be seated ... At last as if having gained confidence, he will inform you, after approaching a few steps, that his master, Mr. So-and-So, sends you his compliments, and "Good morning! How are you since I saw you?" To this on your answering "God be praised," he will make another bow and remain where he is ... Perhaps after a while he will consent to be seated, with much show of disinclination to take such a liberty. Then again he will rise up, and approach you a few steps, and deliver some other complimentary message from his master. This time he will seat himself near your couch without being asked ... He will soon, however, rise again and tell you in a confidential whisper, behind the corner of his cloth,

what was the real purport of his coming, probably such as this :—"Mr. So-and-So, my master, sent me to you, and desired me to say how are you, and to give you *this*." On which, he, with the greatest mystery, pulls out from under his garment a very small jar of honey ... But I was wrong in saying that this was the *real* purport of his mission ; it was only the ostensible one. This business being transacted, he will advance still a trifle further both in his impudence and in a nearer approach to your seat, till, if by your manner he think he has gained favor in your sight, that is to say, if you be anything but stiffly courteous to him, he will perhaps drop, accidentally as it were, on the edge of your couch, and at last sit comfortably alongside of you... Then, all his humility disappearing, he will arrange his garments as pleases him best, and making himself perfectly at home, tell you stories of his own and his master's greatness, and of their particular attachment to you ... Rising at last when either your "tedge" is all drunk or your society no' longer agreeable, he reassumes for a moment his mock humility, and taking leave of you, begs you to give him a "balderabba," that is, to name from among your servants one who may be his friend and spokesman whenever he may need to address you. To him he confides his secret—the *true* motive of his visit ; and it becomes his balderabba's duty to hint to you when you ask him, that your friend So-and-So, from whom you have just received a shilling's worth of honey, is very much in want of a piece of velvet, or a muslin turban, or perhaps both.

M. Parkyns.

A FLOODED PRAIRIE IN SOUTH AFRICA.

We made so many attempts to get over the Sansureh, both to the west and east of the waggon, in the hope of reaching some of the Makololo on the Chobe, that my Bushmen friends became quite tired of the work. By means of presents I got them to remain some days ; but at last they slipped away by night, and I was fain to take one of the strongest of my still weak companions, and cross the river in a pontoon.

We each carried some provisions and a blanket, and penetrated about twenty miles to the westward in the hope of striking the Chobe. It was much nearer to us in a northerly direction, but this we did not then know ... The plain over which we splashed the whole of the first day, was covered with water ankle-deep, and thick grass which reached above the knees. In the evening we came to an immense wall of reeds,

six or eight feet high, without any opening admitting of a passage ... When we tried to enter, the water always became so deep that we were fain to desist. We concluded that we had come to the banks of the river we were in search of, so we directed our course to some trees which appeared in the south, in order to get a bed and a view of the adjacent locality. Having shot a leche, and made a glorious fire, we got a good cup of tea, and had a comfortable night ... While collecting wood that evening, I found a bird's nest consisting of leaves sewn together with threads of the spider's web. Nothing could exceed the airiness of this pretty contrivance; the threads had been pushed through small punctures, and thickened to resemble a knot. I unfortunately lost it. This was the second nest I had seen resembling that of the tailor-bird of India.

Next morning, by climbing the highest trees, we could see a fine large sheet of water, but surrounded on all sides by the same impenetrable belt of reeds. This is the broad part of the river Chobe, and is called Zabesa. Two tree-covered islands seemed to be much nearer to the water than the shore on which we were, so we made an attempt to get to them first ... It was not the reeds alone we had to pass through; a peculiar serrated grass, which at certain angles cut the hands like a razor, was mingled with the reed, and the climbing convolvulus, with stalks which felt as strong as whip-cord, bound the mass together. We felt like pygmies in it, and often the only way we could get on was by both of us leaning against a part, and bending it down till we could stand upon it. The perspiration streamed off our bodies, and as the sun rose high, there being no ventilation among the reeds, the heat was stifling, and the water, which was up to the knees, felt agreeably refreshing ... After some hours' toil, we reached one of the islands. Here we met an old friend, the bramble-bush. My strong moleskins were quite worn through at the knees, and the leather trousers of my companion were torn, and his legs bleeding. Tearing my handkerchief in two, I tied the pieces round my knees, and then encountered another difficulty... We were still forty or fifty yards from the clear water, but now we were opposed by great masses of papyrus, which are like palms in miniature, eight or ten feet high, and an inch and a half in diameter. These were laced together by twining convolvulus, so strongly that the weight of both of us could not make way into the clear water. At last, we fortunately found a passage prepared by a hippopotamus. Eager, as soon as we reached the island, to look along the vista to clear water, I stepped in, and found it took me at once up to the neck.

Returning nearly worn out, we proceeded up the bank of the Chobe, till we came to the point of departure of the branch Sanshureh; we then went in the opposite direction, or down the Chobe, though from the highest tree we could see nothing but one vast expanse of reed, with here and there a tree on the islands ... This was a hard day's work, and when we came to a deserted Bayeiye hut on an anthill, not a bit of wood or anything else could be got for a fire, except the grass and sticks of the dwelling itself. I dreaded the "*Tampan*," so common in all old huts; but outside of it we had thousands of mosquitos, and cold dew began to be deposited, so we were fain to crawl beneath its shelter.

We were close to the reeds, and could listen to the strange sounds which are often heard there. By day I had seen water-snakes putting up their heads and swimming about. There were great numbers of otters, which have made little spoors all over the plains in search of the fishes, among the tall grass of these flooded prairies; curious birds, too, jerked and wriggled among these reedy masses, and we heard human-like voices and unearthly sounds, with splash, guggle, jupp, as if rare fun were going on in their uncouth haunts ... At one time, something came near us, making a splashing like that of a canoe or hippopotamus; thinking it to be the Makololo, we got up, listened and shouted, then discharged a gun several times, but the noise continued, without intermission, for an hour. After a damp cold night, we set to, early in the morning, at our work of exploring again, but left the pontoon in order to lighten our labor ... The anthills are here very high, some thirty feet, and of a base so broad that trees grow on them; while the lands, annually flooded, bear nothing but grass. From one of these anthills, we discovered an inlet to the Chobe; and having gone back to the pontoon, we launched ourselves on a deep river, here from eighty to one hundred yards wide ... I gave my companion strict injunctions to stick by the pontoon in case a hippopotamus should look at us; nor was this caution unnecessary, for one came up at our side, and made a desperate plunge off. We had passed over him. The way he made caused the pontoon to glide quickly away from him.

We paddled on from midday till sunset. There was nothing but a wall of reed on each bank, and we saw every prospect of spending a supperless night in our float; but just as the short twilight of these parts was commencing, we perceived, on the north bank, the village of Moremi, one of the Makololo, whose acquaintance I had made in our former visit, and who was now located on the island Mahonta ... The villagers looked as we

may suppose people do who see a ghost, and, in their figurative way of speaking, said, "He has dropped among us from the clouds, yet came riding on the back of a hippopotamus! We Makololo thought no one could cross the Chobe without our knowledge, but here he drops among us like a bird."

Next day we returned in canoes across the flooded lands, and found that, in our absence, the men had allowed the cattle to wander into a very small patch of wood to the west, abounding in the insect called the tsetse, so fatally poisonous to cattle; this carelessness cost me ten fine large oxen... After remaining a few days, some of the head men of the Makololo came down from Linyanti, with a large party of Barotse, to take us across the river. This they did in fine style, swimming and diving among the oxen more like alligators than men, and taking the waggons to pieces, and carrying them across on a number of canoes lashed together... We were now among friends; so going about thirty miles to the north, in order to avoid the still flooded lands on the north of the Chobe, we turned westwards towards Linyanti, where we arrived on the 23rd of May, 1853.

Livingstone.

SIERRA LEONE: THE DRY SEASON.

SIERRA LEONE is associated, in our imagination at home, with sickness, sorrow, and death; but widely different were the ideas which the first few hours on its sunny shores raised in my mind, for very soon after landing, I felt a great deal better than I had done since leaving England; and, on walking out in the evening, I could not but fancy that its air possesses a sanatory influence, and that to the envy of those dwelling under less glowing skies, might be ascribed the invention of all those appalling histories of the deadliness of its climate.

Shortly before sunset we proceeded, at a loitering pace, to the avenue gate, and I was enchanted with the luxuriance of the trees. Innumerable blossoms shone in all directions; one resembling a branch of red coral, another, still more gorgeous, with its festoons of orange and scarlet, reminded me of the feathers of the bird of Paradise; while the pale lilac clusters of a third recalled the image of more northern gardens, and claimed a kindly remembrance of old familiar flowers, although the perfume of orange and lime trees was around us... It was so cool and pleasant, that we remained out until after the sun set, and in retracing our steps we startled two birds; the plumage of one, the "African cock of the woods," was crimson, green,

and purple ; the other was a small pigeon, with wings so brightly green, that they glittered in the dim light under the rose apple boughs, as it flew to the top of a fine tree, which bears a plum of which the wild doves are fond... When darkness set in, the hum of millions of insects arose, and a very unsentimental memory it brought along with it, being exactly like the noise of a large manufactory where spinning-machines are constantly in motion... Another dull, though more distinct sound, like quick strokes on a muffled drum, mingled with the buzzing and chirping ; this was the beating of the monotonous tom-tom, which literally never ceased during the night. I was glad when now and then the wild plaintive tunes chanted by the Timmanee boatmen on the river reached the ear ; first faintly heard, then gradually swelling out in full chorus, till, as the canoe with its rowers floated past, the sound died away like unearthly music, in the distance.

In the morning whilst I was dressing, the doors were all open leading into the piazza, and through the jalousies a cool sea breeze entered, laden with the fragrance of many flowers unknown to me ; a peep of the river gleamed in the early sun through the rich screen of leaves and blossoms ; on the lawn in front several cows were grazing, much less like the kine of our own clover pastures, and mostly dun-colored ; close to their feet walked numerous snow white cranes, seemingly tame as any barnyard fowls, and many a beautiful bird and bright-winged insect glanced past in the clear soft air, while the gentle rippling of the waves at the foot of the bank, blended with a thousand merrier sounds.

I remained in the house during the heat of the day, but after dinner we drove round the race-course, a lonely little peninsula lying beneath the wild high mountains, and hemmed in by the river. Here all the *élite* of the colony assemble for air and exercise of an evening ; yet, although in one or two of the, perhaps half dozen, equipages on the broad circular path, sat delicate-looking European ladies, in short-sleeved white muslin pelisses, long gloves, thin scarfs, and transparent bonnets, and a few impatient horses were reined in by white riders, — it struck me that the carriage drive had a very deserted aspect, and that our countrymen and countrywomen appeared pale, languid, and dispirited... Those only who really seemed to enjoy the scene were the Othello-visaged portion of the equestrians, who, with an attempt at a military or naval air, visible in the universal moustache and smart blue cloth jacket, dashed past on their half wild steeds, in all the grandeur of scarlet saddle-cloths and jingling bridles.

As we left the course and entered a road leading to Free-town, that want of forest which strikes the eye on looking at Sierra Leone from the sea, was no longer apparent; each native hut was shaded by the thick foliage of orange and lime trees, banana, and plantain; while climbing plants of great beauty twined over the rustic fences round the little negro gardens, and here and there a clump of palms threw their dark shadow over the patches of clear land behind the long row of wattled dwellings which fenced the road... The natives were seated in groups on the ground by the low doorways of their huts; the men smoking, laughing, and talking, the women preparing their evening meal in shining bowls made from a large gourd, the fruit of the calabash tree, or wending their way homewards with heavy burthens on their heads; whilst children gambolled about with noisy play amongst dogs, goats, and sheep, the latter bearing scarcely any resemblance to those of Britain, being much larger, and clothed, instead of wool, in a shaggy coat of short rough hair, with black, brown, and white spots... Most of the goats were graceful deer-like creatures, and every family seemed to possess several of them.

It rained; which every one seemed to wonder at, "because it was the dry season." On looking out shortly afterwards, everything seemed dry as before; the earth not a whit darker red than it had been in the evening; not a single pearly drop upon one blade of grass; no appearance of the rain, though it fell heavily as a shower of hail.

The houses here are all constructed so as to afford as much coolness as possible. In this there are nine large doors in one of the inner rooms, six in another, with two windows opening into a verandah or piazza as it is usually termed: none of these being shut during the day, a free current of air is always admitted, while a large stove in the principal apartment denotes that at times, even in this country, a fire is deemed necessary.

The harmattan wind is now blowing, and everything in the house is covered with an impalpable red dust, even our eyes are affected by it. The windows being kept carefully shut towards the point whence it blows, I do not perceive that the heat within doors is at all lessened by the influence of the harmattan; but I see the natives do not like it... The women are all wrapt up in plaid shawls, and the men in blanket jackets, whilst our servants go about with handkerchiefs bound round their heads, and complain that it is "cold too much." It is a very dry wind, and comes from over the great desert of Sahara.

The harmattan is disagreeable from its extreme dryness and

the sand it brings, which causes a thick, dark and reddish haze throughout the whole atmosphere, almost obscuring our view of the opposite shore. Every article of furniture is shrinking and cracking; paper and the boards of books curling up; veneer peeling off, and the strings of the pianoforte breaking... I hear it is much stronger at the Gambia, where it feels like the breath of a hot furnace, causing the panels of doors to shrink and fall out, and glass to become so brittle that it snaps asunder though untouched by any person. The high wind has brought several strange-looking insects to the house; I observed one that looked almost like a flying spider; and to-day caught a beautiful fly of a bright green hue, which glitters as if powdered over with gold dust; its wings are transparent, and seem fifty times finer than the finest gauze.

It is almost impossible to picture you, at present wrapped up in cloaks and furs, and mayhap surrounded by snow, whilst we are planning every contrivance to render the heat of the tropics more endurable, for so glowing a temperature is at best not too comfortable.

SIERRA LEONE: THE WET SEASON.

If in the dry season, which with you is winter, I marvelled at the dense vegetable growth in this country, I may marvel still more at the appearance it presents now in August; for where before there were brown withered grass and underwood, through the interstices of which one could see a few feet into the bush, now the trees, shrubs, grass, and weed together at each side of some of the walks form quite an impervious wall of matted verdure.

The most unpleasant thing about the wet season is the impossibility of getting out *every* day to take proper exercise. Sometimes it looks so radiantly clear and sunny, you feel assured there is opportunity for a short quick walk, and set out accordingly. But after proceeding a few steps, you are perhaps intent upon examining a flower, or watching some bird or butterfly, feeling the sun so intensely hot that you do not dream of rain; when a sudden sound, like hailstones falling, causes you to look towards the quarter whence it proceeds, and there moves on a shower of water, so rapidly that, though you run back with speed, still, generally speaking, your dress is so thoroughly wetted as to render an immediate change imperatively necessary... If you wish to ride, it is still worse. No sooner is your horse saddled, than all the clouds seem to congregate upon the hill tops, and at once disperse themselves in a

deluge, of which but ten minutes before there was not the slightest appearance throughout the whole sky !

Then the mornings are sometimes so cold, that you feel chilly though in a winter dress, at the same time that a fire is blazing in the house and every window shut; while by-and-by the breeze dies away, dull dark clouds hang in all directions, and though the sun only shines partially, the sultriness of the atmosphere continues most oppressive for several hours. Then a violent gale may come on from the sea, accompanied by heavy rain, and you feel ready to shiver with the thermometer at 76°. It must be these sudden heats and chills that render the climate so trying.

I do not dislike the incessant rain so much as the dense damp fogs of Sierra Leone; not from the miasma they are said to bring, but from their unpleasantness. They often rise out of the ravines at either side of us, and from the plain over which they brood for hours, looking from this height like masses of solid lead... But commonly the land wind in the morning sends these vapors drifting over Mount Oriel; thence they pass along the hills behind and the low ground in front, dividing, as it were, to avoid our house; whirling about like the smoke of some great conflagration, and banking up in grey and heavy volumes, until they completely obscure our view of every place beyond the brow of our own hill... When these mists go out to sea, we may always look for rain; but if, after they have hung about for some time, giving us a peep now and then of the barrack buildings, like a huge birdcage, suspended by invisible means in the air, a glimpse of the church steeple, and one or two of the tall masts of the vessels in the harbor, the vapor rises and rolls up towards the hill again, we may expect it to turn out fine and sunny, although in the depth of the rainy season. And a fine day in the "rains" is always so much more lovely and bright than the finest day of the dry season; not because it comes so seldom and contrasts with the many dull gloomy days, but really on account of its own intrinsic beauty... There is no haze in the atmosphere; the distant horizon, hills, shore, all seem brought near by a magic glass; the sea lies stretched out with the gleam of a sapphire; and, except for the floating here and there of one of those pure white, fleecy clouds, called in the emphatic language of Germany, "Heaven's lambs," the sky realises all the beautiful imagery wherein poets are apt to embody their ideas of the firmament's spacious and shining vault.

The sky then is *indeed* blue, the sun bright, and the earth green! Yet the woods do not present a uniform hue which

would tire from its sameness. Not only do you behold every shade of green, but many of the trees put forth leaves, at first of a delicate crimson, which look like magnificent tufts of flowers, and thus give to the bush a richly variegated aspect... I have seen one young tree showing in its upper branches very nearly the hues of the rainbow,—faint red, deepening into orange and scarlet, on one shoot, contrasting vividly with the pale primrose and pea-green of another; while on a third, lower down, the colors, gradually blending, tinged the same leaves at once with shades of the brightest purple and darkest olive,—the whole glancing in the sun like jewels.

Ever since the "rains" set in, the birds seem to have become tamer. Besides the dark crested brown one, and the brilliant humming-bird, we have, fluttering amongst the orange branches of a morning, the "palm bird" (so called from building its nest in palm-trees), a lovely creature with bright orange and black plumage; and another, scarcely less elegant in form, which reminds me of the greenfinch and canary, having a light saffron-colored head and breast, with wings and tail of yellowish-brown, beautifully glossed with green... Yet more striking in aspect than any of these is the graceful little whydah finch, or, as it is familiarly called here, from its jetty plumage, the "widow-bird." Its head and neck are far more shining and smooth than the richest velvet, and its tail-feathers, which are above twice the length of its body, seem, as much as its wings, to waft the bird through the air... To see this mournful looking beauty, floating from spray to spray, or lightly perching on a stalk of grass with a motion as stately as it is ethereal, you would imagine her the most dignified, gentle, and sweet-tempered dame in all the feathered creation; instead of which she is one of the most quarrelsome, noisy, and self-sufficient; pecks, scolds, and pursues her equals, and flies in the face of birds three times as large as herself. Nor must I forget the little rice-buntings, pretty in spite of their rotundity of figure, and clothed in sober suit of iron-grey, almost black, with white cravats round their necks. They are lowly, social, loveable little birds, flying in flocks of from twenty to thirty, and seem fonder of hopping humbly about in the Bermuda grass, than of contrasting their quaker garb with their gaudier attired fellows in the orange and lime-trees. I have heard that in the dry season my unassuming favorites put on a scarlet costume.

Sierra Leone: Murray.

AUSTRALIA.

A DRIVE FROM MELBOURNE TO BALLARAT.

THE morning broke bright and fresh; the ground was white with frost; at daylight the train of pilgrims were crossing the plain; the Germans with wheelbarrows led the way. At Ballan we find the inn "eaten out." A horse passes at speed, bearing on his back two horsemen. We meet sulky parties of the unsuccessful returning ... The forest grows denser; towards evening we reach the hospitable roof-tree of Lal Lal, where at daybreak all the laughing jackasses of the colony seemed to have established a representative assembly. Ha, ha, ha! ho, ho, ho! hu, hu, hu! ring forth in every variety of key innumEROUS ... The cavalcade in motion splashes through the broad river, where our driver walks beside, and urges on, his horses, fearful of his dray sticking on the way. Our next point is Warren Neep, where we refresh with a draught from the delicious mineral spring. Two miles from Warren Neep, the hills begin gradually to slope toward Ballarat ... The forest trees are loftier and denser, but the surface soil is not so richly grassed. The road emerges on to a rich bottom of considerable extent, and the hill to the left extends upwards in such a gentle slope as to diminish the appearance of its height. Within a mile and a half of Golden Point, the tents begin to peer through the trees.

The bank of the creek is lined with cradles, and the washers are in full operation. Round the base of the mountain, on the further side, at right angles with this creek, the river Leigh flows, and for half a mile along its bank the cradles are at work. We descend, leave the road, cross the bottom, spring over a dam, and are among the workmen. "Rock, rock, rock! swish, swash, swish!" such is the universal sound ... Higher up the hill's crest, along its sides, and stretching down to the swamp far away to the right and left, are the tents, thickly clustered and pitched, and far beyond, the lofty white-barked trees form a background. This is Ballarat.

Crossing the swamp, we reach the commissioner's tent, where he is trying a depredator, who, for want of a lock-up, has been tied to a tree all through the hard night's frost.

Troops of horses, drays, carts, and gigs, with their owners, are all around. Squatter, merchant, farmer, shopkeeper, laborer, shepherd, artisan, law, physic, and divinity—all are represented here. ... You meet men you have not seen for years, but they recognise you first, for even your most intimate friends are scarcely to be known in the disguise of costume, beard, and dirt. "Welcome to Golden Point!" "Ah, old friend! hardly knew you; how are you getting on?" "Did nothing for a week; tried six holes and found no gold. My party, disheartened, left me. I formed another party; sank eighteen feet until we came to the quartz, and dug through it, and now I have reached the blue clay. It is a capital hole; come and see it."

Imagine a gigantic honeycomb, in which the cells are eight feet wide, and from six to twenty-five feet deep, with the partitions proportionately thin. To follow a friend, and to find a hole in the very midst, is dangerous work:—"Lightly tread, 'tis hollowed ground" ... The miners move nimbly about, with barrow, pick, and bag, swarming along the narrow ledges, while below others are picking, shovelling, and heating the stove. "No danger, sir; our bank is supported by quartz. We've got to the gold at last. Made an ounce yesterday. There was a man killed yesterday three holes off; the bank fell down on him as he was squatting down this way, picking up the bank, and squeezed him together. His mate had his head cut, and was covered up to the throat."

Down the excuse for a ladder, half the way, then a jump, and the bottom of the capital hole is gained. Nearly four feet of rock sand formed the upper layer, next a stratum of pipe-clay, below which lie the quartz boulders; then a formation of quartz pebbles, with sand impregnated with iron; this penetrated, the bluish marl is reached in which the vein of gold is found ... Down among the men washing there is nothing to be observed. The work is earnest, no time for talk. The commissioner has a busy time issuing licences. His tent has the mounted police on one side, and the native police on the other. The black fellows are busy tailoring; one on the broad of his back in the sun, with his eyes shut, chanting a monotonous aboriginal ditty. Three men are waiting their turn with the commissioner.

The evening shadows fall; the gun from the commissioner's tent is fired, the signal for digging to cease; the fires blaze up; the men gather round them for their evening meal, their smoke floats over the trees as over a city; the sounds of labor are hushed, but are succeeded by loud voices and ringing laughter, mingled with the bells of the browsing oxen, and the dogs bay-

ing more loudly as the darkness grows more dark ... A party of gamblers are staking each a pinch of gold dust on the turn of a copper. The native police, lithe and graceful as kangaroo-dogs, are enjoying a round of sham combat; one black fellow attacks with a frying-pan, the other pretends to shoot him with his knife; a painter might study their attitudes... Hark to the sax-horns from the Black Hill, floating to us across the valley; close at hand the sweet melody of the German hymn in chorus rises; and then down from toward the river comes the roaring chorus of a sailor's song. The space and distance mellow in one harmonious whole all the sounds; and as we retreat, they fall upon one wearied with hard labor, like the rich hum of an English meadow in harvest-time.

A flash! a bang! another! now platoon-firing; the sounds of war mingle with and overpower the music. Men who never before dwelt out of reach of an inn and a waiter have to learn now to camp under a tree, and cook a chop without a frying-pan.

Gold Fields: R. T. Society.



CHURL AND CO.: THE GOLD FEVER PATIENTS.

THE harmony of our immediate neighbourhood was soon sadly broken up by the demon of gold; and I must give a short history of it, for it is one of a kind that is continually occurring, and finds the Commissioners enough to do in settling disputes and restraining offences. It must be so where Mammon is lord paramount, and will illustrate curiously one feature of digger-life.

Churl, the miller, and his men, had been very peaceable and useful neighbours up to a certain point. The man had an honest, bluff look, and seemed disposed to be very civil, especially as he had flour, sugar, &c., to sell, which we were willing to buy. He would occasionally borrow a horse from us, when his own had strayed, or had sore backs—a very common case in this warm climate, where horses are not groomed at all in the bush, and where the saddles are generally very flat... Of all book-knowledge he was as innocent as any miller need be; but as that was an accomplishment that we did not look for in him, we had no cause to complain on that account. It was something to have a party near you that you seemed to know *something* of,—for of the majority of diggers, of course, you knew nothing,—and with whom you could establish a sort of neighbourly standing, and mutual-obligation-and-protection society.

All, therefore, went well till our claim began to assume a very golden aspect, far surpassing that of the miller. Then was it wonderful to see the excitement, the agitation, and the restlessness that seized on him and his company. This consisted of two men, whom he said he had taken into his employ for charity, having found them reduced to a state of utter destitution ... The looks of these men certainly did not recommend them. They were both red-haired, and one was destitute of an eye. Amongst ourselves, they accordingly went by the names of PolypHEME and Caliban. The one was a stupid sailor, the other, PolypHEME, a more acute and knowing fellow ; but both, up to this point, were well-behaved and civil. Besides these, there were two boys, Bob and Bill.

As I have said, the moment they began to witness our success, their whole nature seemed changed. They were working the portion of the creek next below us, and there is every reason to believe that it was equally as good ; but instead of digging it all out clear before them, they dug here and there, turning the whole up pretty much as so many pigs would. No part could be said to be cleanly and thoroughly washed ; and their refuse was actually thrown in their own way.

When, therefore, they witnessed the gold that we obtained, — and they kept a sharp look-out, — they became more like the wild beasts in the Zoological Gardens at the approach of feeding-time, than anything else that I can think of. They were all in agitation. Every nerve seemed to quiver with irritability. They were in constant action ; running to us, to look at our proceeds every time we worked a fresh dish or emptied a cradle ; then running back again, jumping into their holes, and digging away like maniacs for a few minutes ; then jumping out again ; then holding a hurried council, and setting in in some fresh part of their claim, as soon to abandon it.

Before they had manifested any symptoms of this violent gold-fever, I had confidentially said that, if no one took up the portion of the creek immediately above us, before we had done this, we would take that. They now, therefore, rushed away from their own claim, before it was half finished, and yet leaving a quantity of tools in it, by way of retaining it, though quite unavailing if any one chose to slip into it while they were at work on another.

Here they delved and plunged about in the same extraordinary way ; and, as if they thought that all the gold, by some magic process, was conjured into our claim, they came and pared down our dam as close as they could, so as not actually to let the water in upon us ; for which, however, we were

chiefly indebted to the logs we had laid across it, and which they could not cut through. After working two or three days with little success on this new claim, and seeing that we were approaching the lower end of ours, they as suddenly abandoned the one above us, and returned to their old one ... There they set in as close to ours as possible, and cut away their dam, so that if we had turned the water into our claim, when finished, it would have entirely drowned them out. But having cut away their dam, they pared away the earth close to our claim, the boundary of which was marked by a tree on each side of the creek, as if they were anxious to leave the smallest possible grain of gold that their terminus would admit.

But unfortunately they did not stop here; for on going to our claim the next morning, to my astonishment, I saw that the thirst for some of our gold had been too strong for them; they had actually been at work in the night, and had cut away four feet of our claim quite across! Surprised as I was, I proposed in my own mind that no notice should be taken of it, but that we would quietly draw away, when we had finished this claim, now nearly done, from these so clearly dangerous neighbours ... But some others of my party were not so forbearing. Their youthful blood boiled with indignation the moment they saw the encroachment; and they told Polyphe and Caliban, who were the spadesmen of the party, that there must be no more of that.

This was the signal for what these fellows call "a flare up." They were on fire with cupidity and jealousy at our success, and there only wanted a spark to cause their gunpowder spirits to explode. They did explode, in such a volley of oaths and abuse as only the most accomplished blackguards could let loose. But that was not the surprising part of the affair: it was no novelty to be treated thus at the diggings. The extraordinary person in the party turned out to be the miller himself.

The miller was rocking the cradle at a little distance; but it became at once manifest that he was pleased that the fellows should abuse us. He sat coolly rocking his cradle; and all that I could extract from him was, "I am a member of the Peace Society, and won't interfere." I told him that that was the very reason why he should interfere, and order peace and decency; but he only rocked his cradle quietly on, with a quiet smile on his full-moon placid face.

The one-eyed Polyphe seemed actually on flame with malignity; and he became a perfect devil in spite, audacity, and mischief. His one eye glared with a furious light; his

features were inflamed with a fiendish fury ; his abuse never ceased ; and often he seemed on the point of rushing at us, and attempting some desperate act. The perfect indifference and forbearance of every member of our party commanded my admiration.

At length to such a pitch did the ferocious rage of Polyphe me advance, that, seizing an axe, he began to chop down one of the boundary trees, which I had perceived so leaned that it would fall directly across one of our cradles, and smash it, if not instantly removed. The rascal exclaimed aloud, that if he could smash us altogether with it, he should be content. And truly, as I gazed on him, chopping furiously away at the tree, I thought I never had seen so perfect an image of a devil.

As the cautious miller, however, saw that we made no attempt to remove the cradle, and foresaw that, if destroyed, the Commissioners would be called in, and that his party would not only have to pay the damages, but also probably to be fined four or five ounces of gold ; and moreover, as he would probably get his trusty and well-beloved workmen committed to custody for a few weeks, and thus lose their services, he now interfered, and ordered Polyphe me to desist... But, to use an expressive phrase, the devil was too strong in him to pay any attention ; he chopped away with only more demoniac energy. The miller, therefore, ordered the rest of his party to fix a rope to a branch of the tree, and, as it fell, to drag it away from us.

It was now a desperate strife between Polyphe me and his own party. He used all his force, and struck fast and furiously, to get the tree down before they could secure the rope to it. It was a doubtful chance which would prevail... The tree already tottered. The men had some difficulty in reaching a bough that had strength enough to bear the pull. They were all bustle ; the miller stopped his phlegmatic working of the cradle, and stood riveted in attention... Polyphe me, red with heat, and dropping with perspiration, chopped with all his excited strength, and made his chips fly and his axe swing so, that no one dared go near him. At length the tree gave a crack — a swing... Polyphe me stood like all the rest of us, watching intently which way it inclined. For a moment, it seemed that nothing could prevent it falling directly on our cradle ; but the force of the men pulling prevailed ; the tree gradually turned aside, and fell clear of us and our apparatus.

This behaviour had gone on for about a fortnight ; there was no abatement whatever of the nuisance. The very boy Bill, an Irish lad, was set to insult us whenever we passed ; and

nothing availing to rouse us to any notice of their conduct, PolypHEME began to utter the most deadly threats against us. He took his gun, and, pretending to shoot at birds in the bushes near us, sent his shot right amongst us while at our work ... Luckily we had been watching his motions, and took care to interpose the trunks of some good large trees betwixt ourselves and him. But it now appeared time that we should seek some protection against him ... We were in the Bush with no police; the government camp was not yet established there; and we were entirely exposed to the brutal wickedness of this fellow at any moment; while his malicious fury only seemed to grow by time. An opportunity was very soon presented for seeking redress.

As we returned from our claim to breakfast, near the miller's tent, PolypHEME crossed our path, carrying on his shoulder a huge branch of a tree, the thicker end of which he held near the ground. As Alfred passed, he dexterously pushed the bough betwixt his legs, evidently with the intent to throw him down; but Alfred got away, and, without even turning his head or uttering a remark, walked on towards our tent. I was standing near PolypHEME, who now occupied the path with his person and his huge bough ... Defeated in his object, he now burst forth with a torrent of the most horrible language, and menaces of murder, which I did not wait long to listen to; but no sooner had Alfred and myself reached the large tree by our fire, where we washed our hands for breakfast, than PolypHEME and Caliban came out to the corner of their tent, about twenty yards from us, and recommenced the most violent threats of murder. PolypHEME vowed particular destruction against Alfred; and his faithful shadow, Caliban, exclaimed, "Why not do it now? Why not do it at once? I would."

The miller had for many days heard the murderous threats of his men, and never interposed a word of rebuke. He now sat in front of his tent, a most placid image of peace, and heard all these vows of violence and bloodshed, and uttered no word whatever. It appeared, therefore, high time that an end should be put to this state of things, that all prudent forbearance had reached its limits. I therefore said to PolypHEME — "There has been quite enough of this; you shall now hear what the magistrates have to say to your conduct."

The miller, on this, addressing PolypHEME, opened his mouth with these oracular words: — "There! you have put your leg in it, and they'll take advantage of you."

As we sat at breakfast we could hear great altercation in the miller's tent, and his voice loudly raised, denouncing their folly

as he phrased it, "getting their leg into it." But he had red their malicious insolence too long; his caution and emnation came too late... After breakfast Alfred, well-d, rode off to Spring Creek; and in about three hours cantering back again with three troopers, and a warrant he apprehension of the offenders... They condemned them by a fine of 5*l.* for Polyphe, as principal actor, and both Caliban to be bound to keep the peace for six months penalties of 80*l.*, which the miller had to guarantee. The strates also assured them that the slightest attempt to w their insolence or annoyance, independent of any higher ch of the peace, should be most severely punished by im- nent, and the penalties most rigorously exacted... Never men more completely muzzled. We had calculated that ould not be safe to remain near them; but there was no they were thoroughly quailed; and within a week after- ls the miller dismissed them, and they went at large, he g for six months responsible for their conduct,— I have no t, a severe punishment to his sordid and cautious nature.

Howitt's Victoria.



Natural History.



NATURAL HISTORY.

FUL HABITS, AND AFFECTION OF ANIMALS.

emely curious to observe in animals, ways and doings of human beings. This is a department of natural which has never been honored with any systematic perhaps it is thought too trifling for grave philosophers. confess, however, that I feel there is some value in ry, as tending to give us sympathies with the ~~better~~ and to dispose us to treat them more kindly ~~than~~ we do.

orts of animals are particularly affecting. They come our social feelings ; and the idea is the more touching, regard the poor beasts, as perhaps enjoying themselves the very brink of suffering death for our enjoyment... rted by all who have the charge of flocks, that the semble children very much in their sports. In the glow of a June evening, while the ewes are quietly preparation for their night's sleep, the lambs gather at a little distance, and then begin a set of frolics of ; dancing fantastically about, or butting, as in jest ach other. The whole affair is a regular game of such as a merry group of children will occasionally be to enjoy just before going to bed... It is highly to witness it, and to trace the resemblance it bears to sorts, which is sometimes carried so far, that a single will be seen looking on close by, apparently rather happy ea of the young folks being so merry, but anxious also should not behave too roughly, otherwise she must interfere.

here is merriment, genuine, frolicksome merriment, in the lower animals, no one can doubt, that has ever the gambols of the kid, the lamb, the kitten, or dog. is something in these sports still more human-like re sport. The principal of make-believe, or jest, as to earnest, can be discerned in many of their merry... A friend of mine observed a kitten amusing itself ng past its mother, and giving her a little pat on k every time it passed. This must have been done

as a little practical joke. The cat stood it for a time very tranquilly; but at last appearing to get irritated by the repetition of such absurd behaviour, she gave her offspring a blow on the side of the head that sent the little creature spinning to the other side of the room. The kitten looked extremely surprised at this act of mamma, as considering it very ungracious of her not to take the joke in the way it was meant.

Affection is another of the human-like characteristics of animals, and one of those best known. A Newfoundland dog once lived with a family in one of the southern states of the American Union, which had rescued one of its master's daughters from drowning. The family had occasion to proceed in a schooner for the city of St. Augustine; they had embarked, and the vessel was swinging off from the pier, when the dog was missed... To quote a newspaper narrative, "The dog whistled, and called, but no dog appeared; the captain became impatient, declared he would wait no longer, gave the order, and the craft swept along the waters with a spanking breeze, and was soon a quarter of a mile from shore... The girl and her father were standing on the vessel, looking back upon the city which they had probably left for ever, when Towser was seen running down to the edge of the wharf, with something in his mouth. With a glass they discovered that it was his master's pocket-handkerchief, which had been dropped on the road to the vessel, and which he now recollects, with some compunctions of conscience, he had sent his four-footed servant back to look after.

The dog looked piteous upon the bystanders, then at the retreating vessel, and leaped boldly into the water. His master immediately pointed out the noble animal to the captain, requested him to throw his vessel into the wind, until the dog could near them... He also offered a large sum of money if he would drop his boat and pick him up; told him of the manner in which he had preserved his daughter's life, and again offered the price of a passage if he would save the faithful creature... The girl joined her entreaties to those of her father, and implored that her early friend might be rescued. But the captain was a savage: he was deaf to every entreaty; kept obstinately on his course; and the better animal of the two followed the vessel, until, his strength exhausted, and his generous heart chilled by despair, he sank among the more merciful billows."

Chambers's Journal.



MIGRATION OF ANIMALS.

THERE is not a known animal which does not occupy a situation exactly suited to its natural habits. But, in the revolution, or the unfavorableness of the seasons, should that situation deny to the individual that frequents it a proper supply of support, and a sufficient command of safety, then it goes away in quest of another more favorable to its wants... He who ventures into the dreary regions of frost and snow, will see that no animal can remain there with impunity when food becomes deficient. Away the famished creature goes elsewhere, in search of fresh supplies. It is then that undeviating instinct acts her part, and unerringly shows the track which must be followed; whether through the yielding air, or in the briny wave, or on the solid ground.

For example, millions of wild fowl migrate from the northern to the more southern regions of our hemisphere, when "winter comes to rule the varied year, sullen and sad." Their food has failed... Again, our magpies, rooks, jays, ringdoves, and pheasants, never fail in autumn to frequent oak-trees in quest of acorns. But when these have disappeared, then instinct directs the same birds to labor elsewhere on the ground for their daily food; and they are seen no more on the oak-trees in quest of acorns, until returning autumn furnishes a fresh supply... When Boreas announces the approach of winter, we find that shoals of fish glide regularly to the south; whilst the quadrupeds, with here and there a solitary exception, will turn their faces to the south, and leave the roaring storms behind them. In a word, the man who spends his time in nature's field, will have innumerable facts to show that food and shelter are the two main inducements which instigate animated nature to make its periodical movements; or to remain one locality, should food and shelter be at command.

STRUCTURAL ADAPTATION TO NATURAL WANTS.

Views of the structure of animals must always be regulated in reference to their *natural* conditions. The neglect of this and reasonable rule has given rise to misconceptions in regard to several animals, and more especially to the sloth, ant-bear, and the ape... The motion of the bill, of the owl, or the fly-catcher, in pouncing upon a fly, is so rapid, we do not see it, but only hear the snap. On the other hand how very different are the means given to the chameleon in obtaining his food! he lies more still than the dead leaf; his is like the bark of the tree, and takes the hue of sur-

rounding objects. Whilst other animals have excitement conforming to their rapid motions, the shrivelled face of the chameleon hardly indicates life ; the eyelids are scarcely parted ; he protrudes his tongue towards the insect with a motion so imperceptible, that it is touched and caught more certainly than by the most lively action... Thus, various creatures living upon insects reach their prey by different means and instincts ; rapidity of motion, which gives no time for escape, is bestowed on some, while others have a languid and slow movement that excites no alarm.

The loris, a tardigrade animal, might be pitied for the slowness of its motions, were they not the very best means bestowed upon it as necessary to its existence. It steals on its prey by night, and extends its arm to the bird on the branch, or to the great moth, with a motion so imperceptibly slow as to make sure of its object.

The sloth, in its wild state, spends its life in trees, and never leaves them but from force or accident. The eagle to the sky, the mole to the ground, but the sloth to the tree. A bare inspection of the limbs of the sloth ought to have enabled naturalists to assert positively that he was never modelled to walk on the ground. He does not even live *upon* the branches, but *under* them. He moves suspended and rests suspended.

Far from stripping an entire tree of its leaves in order to satisfy the calls of hunger, I know by actual observation that he merely takes a mouthful or two of the foliage at a time, and then moves onwards. His falling from the tree, too, like an inanimate mass, is an imaginary speculation, fit for the nursery fireside on a winter's evening... Some years ago I kept a sloth in my room for several months. I often took him out of the house and placed him upon the ground, in order to have an opportunity of observing his motions. If the ground were rough he would pull himself forwards by means of his fore legs, at a pretty good pace ; and he invariably shaped his course towards the nearest tree. But if I put him upon a smooth and well-trodden part of the road, he appeared to be in trouble and distress. His favorite abode was the back of a chair ; and after getting all his legs on a line with the topmost part of it, he would hang there for hours together, and often, with a low inward cry, would seem to invite me to take notice of him... Amongst the birds, too, the swift and the humming-bird have nothing whatever to do with the ground, and this may be seen from the disproportionate character of their feet and legs. As all the four toes of the swift point forwards, it would be very difficult, nay, almost impossible for this bird to maintain a firm

hold on the branch of a tree. On wing it spends the live-long day; on wing its captures its food; and on wing it seizes feathers floating in the air, and takes them to its nest for the purpose of incubation; and when night sets in it retires to rest in the holes of towers, and under the eaves of houses, but never on the branches of trees.

Should the humming-bird chance to come to the ground before your face, its awkward struggles would show at once that it was quite out of its element. When once it has reached the twig, there it remains, quiet and motionless, like our domestic swallow. The humming-bird when in the act of feeding, however, never perches, but invariably takes its nutriment whilst fluttering before a flower.

The ant-bear is another animal which has been much maligned and misrepresented, for neither is he adapted for climbing, nor is it at all necessary for him to do so. Throughout the whole extent of his wooded empire, the ground itself swarms with millions upon millions of ants, fat and healthy, while the structure of his bones declares the provision of the extremity for digging ... What else should the ant-bear do with his tremendous claws, and cylinder shaped snout, so tough as to enable him to perforate the huge ant-hills, which, in certain districts of South America, appear more like the roofs of Chinese temples, than the work and habitations of insignificant little insects? ... He is chiefly found in the inmost recesses of the forest, and seems partial to the low and swampy parts near creeks, where the *troely-tree* grows. There he goes up and down in quest of his favorite nutriment, scraping with his powerful muzzle, the glutinous secretion on his long tongue aiding him in licking up the emmets... He cannot travel fast; man is superior to him in speed. Without swiftness to enable him to escape from his enemies; without teeth, the possession of which would assist him in self-defence; and without the power of burrowing into the ground, by which he might conceal himself from his pursuers, he is still capable of ranging these wilds in perfect safety: nor does he fear the fatal pressure of the serpent's coil, or the teeth of the famished jaguar... Nature has formed his fore legs* wonderfully thick and strong and muscular, and armed his feet with tremendously sharp and crooked claws. Whenever he seizes an animal with these for-

* *Vide* Sir Charles Bell on the "Hand" for an illustration of the anatomical structure of the humerus. — *Bridgewater Treatise*, p. 76.

midable weapons, he hugs it close to his body, and keeps it there till it dies through pressure, or want of food...Nor does the ant-bear, in the meantime, suffer much from loss of aliment, as it is a well-known fact that he can go longer without food than perhaps any other animal except the land tortoise. His skin is of a texture that perfectly resists the bite of a dog; and his hinder parts are protected by thick and shaggy hair, while his immense tail is large enough to cover his whole body.

The Indians have a great dread of coming in contact with the ant-bear; and, as with the moose of Canada, after disabling him in the chase, never think of approaching him till he be quite dead.

Waterton.

HEREDITARY INSTINCT.

WITHIN twenty years from the foundation of our village, the deer had already become rare, and in a brief period later they had fled from the country. One of the last of these beautiful creatures, seen in the waters of our lake, occasioned a chase of much interest, though under very different circumstances from those of a regular hunt...A pretty little fawn had been brought in very young from the woods, and nursed and petted by a lady in the village, until it had become as tame as possible. It was graceful, as those little creatures always are, and so gentle and playful, that it became a great favorite, following the different members of the family about, caressed by the neighbours, and welcomed everywhere.

One morning, after gambolling about as usual until weary, it threw itself down in the sunshine, at the feet of one of its friends, upon the steps of a store...There came along a countryman, who for several years had been a hunter by pursuit, and who still kept several dogs; one of his hounds came to the village with him on this occasion. The dog, as it approached the spot where the fawn lay, suddenly stopped; the little animal saw him, and started to his feet...It had lived more than half its life among the dogs of the village, and had apparently lost all fear of them; but it seemed to know instinctively that an enemy was at hand. In an instant a change came over it, and the gentleman who related the incident, and who was standing by at the moment, observed that he had never in his life seen a finer sight than the sudden arousing of instinct in the beautiful creature...In a second its whole character and appearance seemed changed; all its past habits were forgotten; every wild impulse was awake; its head erect, its nostrils dilated, its eyes flashing. In another instant, before

the spectators had thought of the danger, before its friends could secure it, the fawn was leaping wildly through the street, and the hound in full pursuit.

The bystanders were eager to save it; several persons instantly followed its track; the friends who had long fed and fondled it calling the name it had hitherto known, but in vain. The hunter endeavored to whistle back his dog, but with no better success. In half a minute, the fawn had turned the first corner, dashed onwards towards the lake, and thrown itself into the water...But if for a moment the startled creature believed itself safe in the cool bosom of the lake it was undeceived; the hound followed in hot and eager chase, while a dozen of the village dogs joined wildly in the pursuit...Quite a crowd collected on the bank,—men, women, and children,—anxious for the fate of the little animal known to them all; some threw themselves into boats, hoping to intercept the hound before he reached his prey; but the plashing of the oars, the eager voices of the men and boys, and the barking of the dogs, must have filled the beating heart of the poor fawn with terror and anguish, as though every creature on the spot where it had once been caressed and fondled had suddenly turned into a deadly foe... It was soon seen that the little animal was directing its course across a bay towards the nearest borders of the forest; and immediately the owner of the hound crossed the bridge, running at full speed in the same direction, hoping to stop his dog as he landed. On the fawn swam as it never swam before; its delicate head scarcely seen above the water, but leaving a disturbed track, which betrayed its course alike to friends and enemies...As it approached the land the exciting interest became intense. The hunter was already on the same line of shore, calling loudly and angrily to his dog; but the animal seemed quite to have forgotten his master's voice in the pitiless pursuit..The fawn touched the land; in one leap it had crossed the narrow line of beach, and in another instant it would reach the cover of the woods. The hound followed, true to the scent, aiming at the same spot on shore; his master anxious to meet him, had run at full speed, and was now coming up at the most critical moment...Would the dog hearken to his voice, or could the hunter reach him in time to seize and control him? A shout from the village bank proclaimed that the fawn had passed out of sight into the forest; at the same instant the hound felt the hunter's strong arm clutching his neck. The worst was believed to be over. The fawn was leaping up the mountain side, and its enemy under restraint. The other dogs, seeing their leader cowed, were easily managed.

A number of persons, men and boys, dispersed themselves in search of the little creature but without success; they all returned to the village, reporting that the animal had not been seen by them. Some persons thought that after the fright had passed over it would return of its own accord. It had worn a pretty collar, with its owner's name engraved upon it, so that it could easily be known from any other fawn that might be straying about the woods.

Before many hours had passed a hunter presented himself to the lady whose pet the little creature had been, and showing a collar with her name on it, said that he had been out in the woods, and saw a fawn in the distance; the little animal, instead of bounding away, as he had expected, moved towards him; he took aim, fired, and shot it through the heart. When he found the collar about its neck, he was very sorry he had killed it...And so the poor little thing died. One would have thought that terrible chase would have made it afraid of man; but no, it forgot the evil, and remembered the kindness only, and came to meet as a friend the man who shot it. It was long mourned by its best friend.

Miss Cooper.



INSTINCT OF INSECTS.

In the course of his ingenious and numerous experiments, Huber put under a bell-glass about a dozen humble bees, without any store of wax, along with a comb of about ten silken cocoons, so unequal in height that it was impossible the mass should stand firmly. Its unsteadiness disquieted the humble bees extremely. Their affection for their young led them to mount upon the cocoons for the sake of imparting warmth to the enclosed little ones, but in attempting this, the comb tottered so violently, that the scheme was almost impracticable... To remedy this inconvenience, and to make the comb steady, they had recourse to a most ingenious expedient. Two or three bees got upon the comb, stretched themselves over its edge, and with their heads downwards, fixed their fore feet on the table upon which it stood, whilst with their hind feet they kept it from falling. In this constrained and painful posture, fresh bees relieving their comrades when weary, did these affectionate little insects support the comb for nearly three days... At the end of this period, they had prepared a sufficiency of wax, with which they built pillars, that kept it in a firm position; but by some accident afterwards, these got displaced, when they had again recourse to their former manoeuvre for supplying their place, and this operation they perseveringly

continued till Huber relieved them by fixing the comb firmly on the table.

Dr. Darwin informs us, that, walking one day in his garden, he perceived a wasp upon the gravel walk, with a fly nearly as big as itself. Kneeling down, he distinctly saw it cut off the head and abdomen, and then, taking up with its feet the trunk, or middle portion of the body, to which the wings remained attached, fly away ... But a breeze acting upon the wings of the fly, turned round the wasp with its burden, and impeded its progress. Upon this it alighted again on the gravel, deliberately sawed off one wing, and then the other, and, having thus removed the cause of its embarrassment, flew off with its booty.

Dr. Franklin was of opinion that ants can communicate their ideas to each other; in proof of which he related the following fact: — Having placed a pot containing treacle in a closet infested with ants, these insects found their way into it, and were feasting very heartily, when he discovered them. He then shook them out, and suspended the pot by a string from the ceiling ... By chance, one ant remained, which, after eating its fill, with some difficulty found its way up the string, and thence reaching the ceiling, escaped by the wall to its nest. In less than half an hour, a great company of ants sallied out of their holes, climbed the ceiling, crept along the string into the pot, and began to eat again ... This they continued until the treacle was all consumed, one swarm running up the string while another passed down. It seems that the one ant had in this instance conveyed news of the booty to his comrades, who would not otherwise have at once directed their steps in a body to the only accessible route.

A German artist, a man of strict veracity, states that, in his journey through Italy, he was an eye-witness of the following occurrence: — He observed a beetle busily engaged in making, for the reception of its egg, a pellet of dung, which, when finished, it rolled to the summit of a small hillock, and repeatedly suffered to tumble down its side, apparently for the sake of consolidating it by the earth which each time adhered to it ... During this process the pellet unluckily fell into an adjoining hole, out of which all the efforts of the beetle to extricate it were in vain. After several ineffectual trials, the insect repaired to an adjoining heap of dung, and soon returned with three of his companions. All four now applied their united strength to the pellet, and at length succeeded in pushing it out; which being done, the three assistant beetles left the spot, and returned to their own quarters.

Kirby and Spence.

THE HONEY BEE.

How the busy little bee improves each shining hour—makes hay when the sun shines—makes honey, that is, when flowers blow,—is not only a matter for the poet and the moralist, and the lover of nature, but has become an important subject of rural, and cottage, and even social economy itself... If West Indian crops fail, or Brazilian slave drivers turn sulky, we are convinced that the poor at least may profit as much from their bee-hives as ever they will from the extracted juices of parsnips or beet-root. And in this manufacture they will at least begin the world on a fair footing... No monopoly of capitalists can drive them from a market so open as this. Their winged stock have free pasture—commonage without stint—be the proprietor who he may, wherever the freckled cowslip springs, and the wild thyme blows... “Sweet is the hum of bees,” says Lord Byron; and those who have listened to this music in its full luxury, stretched upon some sunny bed of heather, where the perfume of the crushed thyme struggled with the faint smell of the bracken, can scarcely have failed to watch the little busy musician,

“ with honey’d thigh,
That at her flowery work doth sing.”

You have noticed how she flits from flower to flower with capricious fancy, not exhausting the sweets of any one spot, but, on the principle of “live and let live,” taking something for herself, and yet leaving as much or more for the next comer, passing by the just opening and the faded flowers, and deigning to notice not even one out of five that are full blown.

The “masses” of every hive consist of two kinds of bees, the workers and the drones. The first are undeveloped females, the second are the males. Over these presides the mother of the hive, the queen-bee. The number of workers in a strong hive is above 15,000, and of drones about one to ten of these.

“The drone,” says Butler, “is a gross, stingless bee, that spendeth his time in gluttony and idleness. For howsoever he brave it, with his round velvet cap, his side gown, his full paunch, and his loud voice, yet is he but an idle companion, living by the sweat of others’ brows. He worketh not at all, either at home or abroad, and yet spendeth as much as two laborers: you shall never find his maw without a good drop of the purest nectar... In the heat of the day he flieth abroad, aloft, and about, and that with no small noise, as though he would do some great act; but it is only for his pleasure, and to

get him a stomach, and then returns he presently to his cheer" ... This is no bad portrait of the burly husband of the hive. He is a proper Sir John Falstaff, a gross fat animal, cowardly, and given to deep potations. He cannot fail to be recognised by his broad body and blunt tail and head, and the "bagpipe i' the nose" ... He is never seen settling on flowers, except at the beginning of August, when he may sometimes be met upon a late-blown rose, or some double flower that the workers rarely frequent, in a melancholy, musing state, as if prescient of the miserable fate that so soon awaits him.

Last in our description, but

"First of the throng, and foremost of the whole,
One stands confess, the sovereign and the soul."

This is the queen bee. "The queen," says our old author, "is a fair and stately bee, differing from the vulgar both in shape and color." And it is amusing that the most sober writers cannot speak of her without assigning her some of those stately attributes which we always connect with human sovereignty... Bevan remarks that "she is distinguishable from the rest of the society by a more measured movement;" her body is more taper than that of the working bee; her wings shorter, for she has little occasion for flight; she gathers no pollen; her proboscis short, for the honey comes to her, not she to the honey; her sting short and curved, for a sting she has, though she seldom uses it.

She is the mother as well as queen of her people, laying from 10,000 to 30,000 eggs in a year; and it is not till she gives symptoms of continuing the race that the full tide of her subjects' affection is poured forth towards her... There are different cells formed for the queen, the worker, and the drone, and she deposits eggs in each accordingly. The bees, like a wise and loyal people as they are, do not stint their sovereign to the same narrow mansions as content themselves; they build their royal cells much thicker and stronger, and of more than twice the size: nay, unlike the surly blacksmith at Brighton, who hesitated to give up his house for the convenience of his sovereign, they think nothing of pulling to pieces and converting several of their common cells when royalty requires it, and vote with alacrity in their committee of supply every demand made for the extension and improvement of their sovereign's palace. When finished, their miniature Windsors resemble the inverted cup of an acorn somewhat elongated... We said that each has its peculiar cells, and that the queen lays only drone eggs in drone cells, and so on. But it has happened, either in her flurry or from some unaccountable accident, that

a drone egg has fallen into a royal cell... Time goes on, and the egg swells, and becomes a larva, and then a pupa, and the bees feed it with royal food, watch its progress with anxious care, and hover in the ante-chamber in nervous expectations of the royal birth; — judge then their surprise when, instead of a princess royal, out walks the awkward and mystified changeling of a drone... Their innate and extreme sense of loyalty does not at first allow them to discover their mistake; they crowd round about him, backing with reverence as they always do in the presence of their real queen: meanwhile the foolish fellow, addled by their homage, and yet chuckling at his unexpected dignity, turns himself about with the incredulous stare of Hassan the sleeper, when he awoke in the palace and robes of the khalif; and so soon commits himself by his ungainly actions, that they quickly turn from him in unmitigated disgust.

It would be an endless work to recount the many stories told of the devoted attachment of these good people to their queen. Her presence among them is their life and glory. She is the mainspring upon which all their work, their order, their union, their happiness seems to turn. Deprive them of her, and all is confusion, disorder, and dismay. They seem to mourn for her when dead, and can with difficulty be withdrawn from her corpse.

The following extract from a private letter describes such a scene as all bee books are full of: — “Last year I was sent for by a lady, who, when she wants my assistance, sends all over the parish for me with a little note with the picture of three bees in it, and this calls me at once to her aid. One of her beehives, a glass one, I found, when I arrived, in a state of the greatest confusion, the inmates running up and down, and making a fearful noise.

“We soon discovered the reason of this. On looking about the bee house, we observed her majesty quietly taking an airing abroad unknown to her subjects: she had got through a hole which had been left for air. We thought it was time for her majesty to return home, so we quietly put her back to her subjects... Where all had been confusion, perfect peace instantly prevailed; the news was communicated in a moment, the pleasure of the loyalists was manifested by a gentle placid motion of their wings, and they returned forthwith to their former labors.”

In this case the queen had slipped out by a back door, wishing, no doubt, to enjoy that privacy and quiet which royalty so often sighs after: at other times, when she walks out in public she meets with that respectful homage and freedom from

interruption which may read a good lesson to the British public.

Once a queen in a thinly peopled hive lay on a honeycomb apparently dying; six workers surrounded her, seemingly in intent regard; quivering their wings as if to fan her, and with extended stings, as if to keep off intruders and assailants. On presenting them honey, though it was eagerly devoured by the other bees, the guards were so completely absorbed in their mournful duty, as entirely to disregard the proffered banquet. The following day the queen, though lifeless, was still surrounded by her guard. This faithful band of attendants, as well as the other members of the family, remained at their post till death came kindly to extinguish both their affection and their grief; for though constantly supplied with honey, not a bee remained alive at the end of four days.

The Honey Bee: Quarterly Rev.

WILD BEES AND THEIR NESTS

One of the most amusing among the tribes of the wild bees are those denominated carding-bees. This is a hairy, yellow bee, having the lower part of the body invested with alternate bluish, white, and black belts. It derives its name of carding or moss-bee from the peculiar skill displayed in the formation of its nest, which is formed of dry moss... These bees build in the ground; they generally choose some deserted mouse-hole, in mossy low ground, near water. After forming the nest, they throw a sort of arch over it to preserve it from heavy rains. If the nest of the carding-bees be taken to pieces, they will presently be seen to form themselves into a chain from the nest to the spot where their materials have been laid... The foremost lays hold of the moss with her teeth, clears it bit by bit with her feet, driving the unravelled moss under her to the second, and she in like manner to the next in succession, till it reaches the workmen at the nest: this proceeding has occasioned her common appellation of carding-bee.

I have had the satisfaction of examining a specimen of its nest and comb, and am at this very time in possession of a portion of the labors of these very ingenious little workmen.

Kent, our serving-lad, who is a boy of some observation, knowing that I take considerable interest in all natural curiosities, came to me the other day in the garden, and told me he had found a wild bees' nest, and asked if I would like to see it.

I, of course, gladly seized the opportunity of examining the nest of these skilful insects, and followed my conductor to the little oval pond in front of what used to be formerly our rabbit house.

Kneeling down on the brink of the pond, Kent pointed out to my notice a little bundle of dry grass and moss that was carelessly put together on the ground. On raising this covering, which was three or four inches in depth, he displayed to my view a circular nest, all smoothly woven and matted together, like the interior of a bird's nest, to which it bore a great resemblance; the centre of this nest was filled with some curiously-shaped cylindrical pipes, about the size of the end of my little finger ... These cells were open, and I could plainly distinguish the honey shining in them, the united labors of about thirty yellow, hairy bees. These little creatures were all busily engaged on the comb: they appeared by no means to approve of our intrusion, so we carefully replaced the covering, and left them for a little time to prosecute their labors.

Anxious, however, to examine the formation of the cells more nearly, that I might acquire as much genuine information as possible, I was much pleased in obtaining this morning a portion of the comb. When Kent brought me the comb, he told me these bees were very commonly met with during the mowing season, in low, marshy grounds, and that he had often seen them at work, pulling the moss and carding it, to make their little nests.

On examining the comb, I found it was composed of a very brown, glutinous sort of wax; the cells hexagonal (or six sided), but irregularly defined, and displaying none of that exquisite neatness and proportion which is so admirable in the labors of the honey-bee. There is as much difference in the style of architecture between the two, as in the rude, primitive huts of the ancient Britons, and the elegant modern structures that adorn the parks and estates of our present nobility and gentry.

Whilst examining the comb, I noticed among the rest a small cell of a soft brownish paste; this was almost round, and closed on every side from the air. On opening the cell with my pen, I discovered it to be the nursery of eight infant bees in the state of larvæ ... These little embryo bees were very white shining maggots, the head being very pellucid, and much clearer than the rest of the body: they were not at all disagreeable in their appearance.

My observations did not end here. I next noticed at the side of the comb I had in my hand, two regular oval cases, of a whitish substance, like India paper, only as tough as

parchment: these cases were perfectly smooth, and quite impervious to the air... Being rather curious to learn what these little inclosed chambers contained, I cut a small opening in one, upon which a young bee, that was concealed within the case, poked out first a pair of black palpi or feelers, and then a droll, black shining head, with a pair of oblong eyes, which looked about as if at a loss to know where he could be... Finding he made no further attempt to free himself from his prison, I cut the case quite open, and he came tumbling out, and thus afforded me an opportunity for making my remarks on his form.

The body of the bee was covered from head to foot with long white down; his wings were rumpled and weak. In addition to the palpi or feelers, I noticed a pair of forceps on each side the jaw, and a long trunk of a shining brown color, almost as transparent as horn; this was in form like a flat sharp-pointed sword in a sheath... The animal gave me an immediate opportunity of examining this useful instrument; for as soon as he had stretched his legs, which must have been sadly cramped by his late confinement, he made use of it by inserting it into the open cells, and began to make amends for his long fast by helping himself plentifully to the honey they contained. Indeed, he made such despatch that I began to apprehend the small stock of honey with which the cells were furnished would not hold out more than a day at furthest, if he continued to enjoy so good an appetite... When he had finished his repast, I noticed that he folded the trunk into two parts, and concealed it beneath his chin. He then proceeded to rub his wings, his head, and his back, by passing his hairy legs over them, which answer the purpose of brushes. His legs and feet he cleaned by rubbing them together.

Narratives of Nature.

HOW DOES A BEE FIND ITS WAY HOME?

GREAT difference of opinion has existed among naturalists as to the means by which the bee finds its way back to the hive, and distinguishes its own residence from that of others. Some believe that it is simply by the sense of vision; others refer it to hearing, and others to the sense of smell. But when a bee is returning to its hive, its flight is usually in a direct line, and hence it would appear to be guided by the sense of vision, which is the most perfectly developed of all the senses of insects... In order to settle this point of dispute, Mr. Newport, on the 11th of March, removed one of his straw hives from the closed

bee-house, in which it had stood through the winter, to a stool in the open air, within sight of, but at a distance of about ten or fifteen yards from the bee-house ... On the following day scarcely a bee went abroad, either from the bee-house or the removed hive, or from another straw hive which stood very near to it, the weather being exceedingly wet and boisterous ... The 13th was a remarkably fine day, and many bees went abroad, both from the bee-house, and from one of the straw hives, and returned loaded with pollen, but not a single bee was observed to return to the straw hive that had been removed, and very rarely any to depart from it. But a few bees were frequently seen descending towards and alighting at the entrance hole in the bee-house, whence that hive had been removed ... This entrance had been closed since the removal of the hive, and the bees, collecting around it, made many attempts to enter, and were quickly in a state of great excitement ... On opening the hole and allowing them to enter, they ran around the place on which the hive had stood, in great agitation, vibrating their half-closed wings most rapidly, and touching each other repeatedly with their antennæ, as if in a state of frenzy. Two or three bees then issued from the entrance hole, and after taking a circling flight twice or thrice in the air, at some distance from the bee-house, as if to reconnoitre the spot, alighted again at the hole, and ran about in the same state of consternation as before ... After continuing in this state for some time, they flew to the entrance hole of the hive which remained in the bee-house, but were very badly received. The bees of that hive resisted and maltreated them, and several fights ensued, in which the intruders were killed ... It was thus evident that these bees belonged to the hive that had been removed, which, perhaps, they had left but a short time before, without reconnoitring the new locality of their residence, which a bee seldom or ever appears to do when its hive has remained undisturbed on the same spot for any great length of time, and consequently having never distinguished their home but by the exterior of the bee-house, they now returned directly to the spot where they had been accustomed to enter ... This experiment seems to show that the bee is not conducted by the sense of smell, either of the honey, or of the inhabitants of the hive, or it could hardly have been attached to a spot whence these were removed ... Neither can we suppose that it was directed by the sense of hearing, or it could hardly have failed to recognise the sounds in its own hive, which stood at so short a distance; while the circumstance of its flying directly to the spot where it had formerly entered, and that of its leaving the entrance hole at

finding the hive removed, and then flying around in the air as if to reconnoitre the bee-house, and alighting a second time at the same hole, seem to prove that the great faculty exercised by it, in discerning its home, is that of sight... This experiment seems also to prove why so few bees left the removed hive, those which had gone out not having returned, as Huber believes, to apprise the population that remained of the quantity of honey abroad, or of the favorableness of the atmosphere for collecting it.

TRANSFORMATIONS OF INSECTS.

WERE a naturalist to announce to the world the discovery of an animal, which for the first five years of its life existed in the form of a serpent, which then penetrating into the earth, and weaving a shroud of pure silk of the finest texture, contracted itself, within this covering, into a body without external mouth or limbs, and resembling, more than anything else, an Egyptian mummy; and lastly, after remaining in this state, without food and without motion, for three years longer, should at the end of that period, burst its silken cerements, struggle through its earthly covering, and start into day a winged bird, what think you would be the sensation excited by this strange piece of intelligence? ... After the first doubts of its truth were dispelled, what astonishment would succeed! Among the learned, what surmises! what investigations! Amongst the vulgar, what eager curiosity and amazement! All would be interested in the history of such an unheard-of phenomenon; even the most torpid would flock to the sight of such a prodigy.

But you ask, "To what do all these improbable suppositions tend?" Simply to rouse your attention to the metamorphoses of the insect world, almost as strange and surprising; miracles which, though scarcely surpassed in singularity by all that poets have feigned, and though actually wrought every day beneath our eyes, are, because of their commonness, and the minuteness of the objects, unheeded alike by the ignorant and the learned.

That butterfly, which amuses you with its aërial excursions, one while extracting nectar from the tube of the honeysuckle, and then, the very image of fickleness, flying to a rose as if to contrast the hue of its wings with that of the flower on which it reposes, did not come into the world as you now behold it... At its first exclusion from the egg, and for some months of its existence afterwards, it was a worm-like caterpillar, crawling upon sixteen short legs, greedily devouring leaves with two jaws, and seeing by means of twelve eyes, so minute as to be nearly imperceptible

without the aid of a microscope ... You now view it furnished with wings capable of rapid and extensive flights : of its sixteen feet ten have disappeared, and the remaining six are in most respects wholly unlike those to which they have succeeded: its jaws have vanished, and are replaced by a curled-up proboscis, suited only for sipping liquid sweets: the form of its head is entirely changed, two long horns project from its upper surface, and instead of twelve invisible eyes, you behold two, very large, and composed of at least twenty thousand convex lenses, each supposed to be a distinct and effective eye.

Were you to push your examination further, and by dissection to compare the internal conformation of the caterpillar with that of the butterfly, you would witness changes even more extraordinary. In the former you would find some thousands of muscles, which in the latter are replaced by others of a form and structure entirely different. Nearly the whole body of the caterpillar is occupied by a capacious stomach. In the butterfly this has become converted into an almost imperceptible thread-like viscus; and the abdomen is now filled by two large packets of eggs, or other organs not visible in the first state ... In the former, two spirally convoluted tubes were filled with a silky gum; in the latter, both tubes and silk have almost totally vanished; and changes equally great have taken place in the economy and structure of the nerves and other organs. What a surprising transformation!... Nor was this all. The change from one form to the other was not direct. An intermediate state, not less singular, intervened. After casting its skin, even to its very jaws, several times, and attaining its full growth, the caterpillar attached itself to a leaf, by a silken girth. Its body greatly contracted; its skin once more split asunder, and disclosed an egg-shaped mass, without exterior mouth, eyes, or limbs, and exhibiting no other symptom of life, than a slight motion when touched ... In this state of death-like torpor, and without tasting food, the insect existed for several months, until at length the tomb burst, and out of a case not more than an inch long, and a quarter of an inch in diameter, proceeded the butterfly before you, which covers a surface of nearly four inches square.

Almost every insect which you see has undergone a transformation as singular and surprising, though varied in many of its circumstances. That active little fly, now an unbidden guest at your table, whose delicate palate selects your choicest viands, one while extending his proboscis to the margin of a drop of wine, and then gaily flying to take a more solid repast from a pear or a peach; now gambolling with his comrades in

the air, now gracefully currying his furled wings with his taper feet, was but the other day a disgusting grub, without wings, without legs, without eyes, wallowing, well pleased, in the midst of a mass of filth.

The grey-coated gnat, whose humming, while she makes her airy circles about your bed, gives warning of the sanguinary operation in which she is ready to engage, was a few hours ago the inhabitant of a stagnant pool, more in shape like a fish than an insect. Then to have been taken out of the water would have been speedily fatal: now could it as little exist in any other element than air. Then it breathed through its tail, now through openings in its sides... Its shapeless head, in that period of its existence, is now exchanged for one adorned with elegantly-tufted antennæ, and furnished, instead of jaws, with an apparatus more artfully constructed than the cupping-glasses of the phlebotomist: an apparatus which, at the same time that it strikes in the lancets, composes a tube for pumping up the flowing blood.

Kirby and Spence.

STAGES OF METAMORPHOSIS: THE TIGER-MOTH.

AFTER an insect has left the egg, and entered upon the world as an individual being, it has to pass through three stages, which are called larva, pupa, and imago. The word "larva," in Latin, signifies "a mask," and this word is used because the insect is at that time "masked," so to speak, under a covering quite different from that which it will finally assume.

In its next stage the insect becomes a "pupa," which means a "mummy," or a body wrapped in swaddling clothes. This name is employed, because in very many insects the pupa is quite still, is shut up without the power of escape, and looks altogether very like a mummy, wrapped round in folds of cloth.

In the moths and butterflies the insect is, in this stage, called a "chrysalis" or "aurelia," both words having the same import, the first Greek and the other Latin, both derived from a word meaning gold. Several butterflies, that of the common cabbage butterfly, for example, take a beautiful golden tinge on their pupal garments, and from these individual instances the golden title has been universally bestowed.

The last, and perfected state, is called the "imago" or image, because now each individual is an image and representative of the entire species. The woolly bear, for example, is the larva of the tiger-moth; and if any inquiring reader would like to keep the creature, and watch it through its stages, he will find it an interesting occupation. There is less difficulty than with most

insects, for the creature is very hardy, and the plants on which it mostly feeds are exceedingly common... Generally, the woolly bear is found feeding on the common blind nettle, but it may often be detected at some distance, from getting over the ground at a great rate, and reminding the spectator of the porcupine. In this case it is usually seeking for a retired spot, whether it resorts for the purpose of passing the helpless period of pupahood. If it is captured on such an occasion, there will be little trouble in feeding, as it will generally refuse food altogether, and, betaking itself to a quiet corner, prepare for its next stage of existence... Having found a convenient spot, it sets busily to work, and in a very short time spins for itself a kind of silken net, much like a sailor's hammock in shape, and used in the same manner. It is not a very solid piece of work, for the creature can be seen through the meshes; but it is more than sufficiently strong to bear the weight of the inclosed insect, and to guard it from small foes. Its color is white, and its surface is bathed in an oily kind of liquid, which soon hardens in the air, and darkens in the light.

On one occasion, I watched a woolly bear changing its skin, and, seizing it immediately that the task was accomplished, put it into spirits of wine, intending to keep it for observation. Next day, the spirit was found to have dissolved away the oily coating, and all the limbs and wings of the future moth were standing boldly out. But when left to itself the pupa or chrysalis bursts its skin covering, and comes forth into the world a perfect insect or moth.

Common Objects of the Country.

A TOUR ROUND MY GARDEN.

THE seasons, as they pass away, are climates which travel round the globe, and come to seek me. Long voyages are nothing but fatiguing visits, paid to the seasons, which would themselves have come to you.

I leave my study at a quarter before six, the sun is already high above the horizon, his rays sparkle, like fire dust, through the leaves of the great service trees, and shining on my house impart to it a rose and saffron-tinted hue. I go down three steps. Here we are in China! ... You stop me at my first word with a smile of disdain. My house is entirely covered by a wistaria: the wistaria is a creeping branching plant, with a foliage somewhat resembling that of the acacia, and from which hang numberless large bunches of flowers of a pale blue

color, which exhale the sweetest odor. This magnificent plant comes from China.

I do not believe I exaggerate, in the least, when I declare that I think this a thousand times more beautiful than the richest palaces ; this house of wood, all green, all blossoming, all perfumed, which every year increases in verdure, blossoms, and sweet odors.

Under the projecting roof is the nest of a wren, quite a little bird, or rather a pinch of brown and grey feathers, like those of a partridge ; it runs along old walls, and makes a nest of moss and grass in the shape of a bottle. I salute thee, my little bird, thou wilt be my guest for this year ! Thou art welcome to my house and to my garden ... Tend and bring up thy numerous family. I promise thee peace and tranquillity ; thy repose, but more particularly thy confidence, shall be respected. There is moss yonder, near the fountain, and plenty of dried herbage in the walks, from the newly mown grass-plat... There she is on the edge of her nest ; she looks at me earnestly with her beautiful black eyes. She is rather frightened, but does not fly away.

The little wren is not the only guest at my old house. You perceive, between the joists, the intervals are filled up with rough stones and plaster. On the front which is exposed to the south, there is a hole into which you could not thrust a goose-quill, and yet it is a dwelling ; there is a nest within it, belonging to a sort of bee, who lives a solitary life ... Look at her returning home with her provisions ; her hind feet are loaded with a yellow dust, which she has taken from the stamens of flowers ; she goes into the hole ; when she comes out again, there will be no pollen on her feet ; with honey which she has brought she will make a savory paste of it at the bottom of her nest. This is perhaps her tenth journey to-day, and she shows no inclination to rest.

All these cares are for one egg which she has laid, for a single egg which she will never see hatched ; besides, that which will issue from that egg will not be a fly like herself, but a worm, which will not be metamorphosed into a fly for some time afterwards.

She has, however, hidden it in that hole, and knows precisely how much nourishment it will require before it arrives at the state which ushers in its transformation into a fly. This nourishment she goes to seek, and she seasons and prepares it. There, she is gone again !

Were I to watch, one after another, all the flies which shine in the sun upon my house, the insects which conceal them-

selves in the flowers of the wistaria, to suck honey from them, and the insects which insinuate themselves to eat those honey suckers ; the caterpillars which crawl upon the leaves, and the enemies of those caterpillars and those butterflies ; were I to watch their birth, their loves, their combats, their metamorphoses — perhaps I should get too absorbed to have time for description. I shall content myself with merely indicating to you the treasures you or I possess.

One insect alone appears to have taken possession of the lily, and established its abode in it. It is a little beetle, whose form is of an elongated square, with black body and claws, and hard wings of a brilliant scarlet. There is no lily that is not an asylum for some of these ... They are called Criocerae. When you have hold of one, press it in your hand, and you will hear a creaking noise, which you may at first take for a cry, but which is nothing but the rubbing of its lower wings against the sheaths of its wings.

It did not always wear this brilliant costume, this costume under which it scarcely eats, and that very daintily ; this costume under which it appears to have nothing to do but to strut about and make love ... It was at first a sort of flat worm, with six feet of a kind of yellow mixed with brown, which dwelt likewise then upon the leaves of the lily, but which then led a very different life. It was then as greedy and glutinous as it is now abstemious and delicate. But that was, because it had two powerful reasons for eating ... The leaves of the lily which it has eaten issue from its body almost without alteration, as if they had been crushed in a mortar. By a particular disposition of its body, this paste of leaves falls upon it, and forms for it a house, or a cuirass, which conceals it entirely ... There comes, however, a day which brings other cares. Spring and its season will soon return. It is pleasing neither in form nor color. It ceases to eat, shakes its strange vestment, walks about in an agitated manner, descends and buries itself in the earth ... Some months after, it comes out shining, lustrous, as brilliant as you now see it, richly clothed in the most beautiful gloss of China. Full of confidence in themselves, the males and females seek each other, and soon meet. Then the males die ... The females have still something to do ; they lay their eggs, which at first are of a reddish color, but afterwards brown, and fasten them to the underside of the leaves of the lily ; then they in their turn die. When born, their children will find abundance of food beside them.

What ! already withered leaves ! I stoop to pick up these

three or four dead ones. The leaves move and—fly away! But there is no wind to carry them away thus ... These leaves are a moth, to which nature has given the form, the color, the disposition, the perfect figure, of three or four dried leaves with their shades and their fibres. Under its first form, it is a pretty large caterpillar, of a dark color—grey and brown, with brown hairs and a fleshy brown horn at the extremity of its body.

Here is a caterpillar which seems to have set out on its travels; in fact it is not at home here. I recognise it now; it is striped with pale blue and yellow, spotted with black. It comes from the kitchen garden yonder, behind that screen of poplars; for there is nothing here that suits it: it lives upon the leaves of the cabbage tribe, which it shares with other green caterpillars which are metamorphosed into those white butterflies so common in our gardens and fields. I do not know what sort of a butterfly this becomes. I will catch it and imprison it to witness its metamorphosis.* But what is going on now? A little fly of a reddish-brown color, whose body seems to be attached to its corselet by a slender thread only, has pounced upon the caterpillar, which appears to be not at all inconvenienced by it, but keeps on its way. It is most likely breakfast time, and it is in search of a cabbage ... But what is the fly about? What does it want? Is it a fly of prey? Does it mean, like a little eagle, to carry off the caterpillar as a meal for itself and its young ones? The caterpillar weighs twenty times as much as it does—that is impossible ... But the fly is armed with a sting twice as long as its whole body, and as fine as a hair. It is an enemy. It is going to kill the caterpillar with that formidable weapon, and, without doubt, eat it. It raises its sting, and this slender hair separates into three parts in its whole length; two are hollow, and are the halves of a sheath for the third, which is a sharp-toothed wimble. It darts it into the body of the caterpillar, which appears to perceive or know nothing of the matter ... It soon withdraws its sword, and returns it to the scabbard, flies off, and disappears. The caterpillar did not stop, nor does it stop. It is going to find its cloth laid and an excellent breakfast ready ... In a few days it will descend into the earth to go through its metamorphoses; but if I do not shut it up in order to ascertain what sort of a butterfly it becomes, my expectations will be disappointed ... The fly has stung it, and what naturalists call the *ichneumon* has only laid an egg in its

* It is transformed into one of those white butterflies which are so common in this country, as well as in France.

body. That sword, the third part of a hair, is hollow, and has deposited an egg in an interior part of the caterpillar, where this operation does it no harm... From this egg issues a worm, which consumes the caterpillar very slowly. The latter feels ill at ease, loses its appetite, and makes its cocoon ; its troublesome guest never ceases to devour it, till, in its turn, it is metamorphosed, and becomes a fly similar to that which we saw lay the egg ... It pierces the cocoon of the caterpillar, and flies away in search of a male, and, after that, of a caterpillar, in which it may deposit its eggs.

A. Karr.

THE SPIDER.

Of all the solitary insects I have ever remarked, the spider is the most sagacious, and its actions, to me, seem almost to exceed belief. This insect is formed by nature for a state of war, not only upon other insects, but upon each other ... For this state, nature seems perfectly well to have formed it. Its head and breast are covered with a strong natural coat of mail, which is impenetrable to the attempts of every other insect, and its belly is enveloped in a soft pliant skin, which eludes the sting even of a wasp. Its legs are terminated by strong claws, not unlike those of a lobster ; and their vast length, like spears, serves to keep every assailant at a distance.

Not worse furnished for observation than for an attack or defence, it has several eyes, large, transparent, and covered with a horny substance, which, however, does not impede its vision. Besides this, it is furnished with a forceps above the mouth, which serves to kill or secure the prey already caught in its claws or its net.

Such are the implements of war with which the body is immediately furnished ; but its net to entangle the enemy seems what it chiefly trusts to, and what it takes most pains to render as complete as possible. Nature has furnished the body of this little creature with a glutinous liquid, which, proceeding from the rear, it spins into a thread, coarser or finer as it chooses to contract or dilate its sphincter... In order to fix its threads when it begins to weave, it emits a small drop of its liquid against the wall, which, hardening by degrees, serves to hold the thread very firmly. Then receding from the first point, as it recedes, the thread lengthens ; and when the spider has come to the place where the other end of the thread should be fixed, gathering up with its claws the thread, which would otherwise be too slack, it is stretched tightly, and fixed to the wall as before.

In this manner it spins and fixes several threads parallel to each other, which, so to speak, serve as the warp to the intended web. To form the woof, it spins in the same manner its thread, transversely fixing one end to the first thread that was spun, and which is always the strongest of the whole web, and the other to the wall. All these threads, being newly spun, are glutinous, and therefore stick to each other, whenever they happen to touch; and in those parts of the web most exposed to be torn, our natural artist strengthens them, by doubling the threads sometimes six-fold.

About four years ago, I noticed a large spider in one corner of my room, making its web, and though the maid frequently levelled her fatal broom against the labors of the little animal, I had the good fortune then to prevent its destruction, and I may say, it more than paid me by the entertainment it afforded.

In three days the web was with incredible diligence completed; nor could I avoid thinking that the insect seemed to exult in its new abode. It frequently traversed it round, and examined the strength of every part of it, retired into its hole, and came out very frequently... The first enemy, however, it had to encounter, was another and much larger spider, which, having no web of its own, and having probably exhausted all its stock in former labors of this kind, came to invade the property of its neighbour. Soon, then, a terrible encounter ensued, in which the invader seemed to have the victory, and the laborious spider was obliged to take refuge in its hole... Upon this I perceived the victor using every art to draw the enemy from his stronghold. He seemed to go off, but quickly returned, and when he found all arts vain, began to demolish the new web without mercy. This brought on another battle, and, contrary to my expectations, the laborious spider became conqueror, and fairly killed his antagonist.

Now then, in peaceable possession of what was justly its own, it waited three days with the utmost patience, repairing the breaches of its web, and taking no sustenance that I could perceive. At last, however, a large blue fly fell into the snare, and struggled hard to get loose... The spider gave it leave to entangle itself as much as possible, but it seemed to be too strong for the cobweb. I must own I was greatly surprised when I saw the spider immediately sally out, and in less than a minute weave a new net round its captive, by which the motion of its wings was stopped, and when it was fairly hampered in this manner, it was seized and dragged into the hole.

In this manner my spider lived, in a precarious state, and nature seemed to have fitted it for such a life; for upon a single

fly it subsisted for more than a week. I once put a wasp into the nest, but when the spider came out in order to seize it as usual, upon perceiving what kind of an enemy it had to deal with, it instantly broke all the bands that held it fast, and contributed all that lay in its power to disengage so formidable an antagonist...When the wasp was at liberty, I expected the spider would have set about repairing the breaches that were made in its net; but those, it seems, were irreparable, wherefore the cobweb was now entirely forsaken, and a new one begun, which was completed in the usual time.

I had now a mind to try how many cobwebs a single spider could furnish; wherefore I destroyed this, and the insect set about another. When I destroyed the other also, the whole stock seemed entirely exhausted, and it could spin no more... The arts it made use of to support itself, now deprived of its great means of subsistence, were indeed surprising. I have seen it roll up its legs like a ball, and lie motionless for hours together, but cautiously watching all the time; when a fly happened to approach sufficiently near, it would dart out all at once, and often seize its prey.

Of this life, however, it soon began to grow weary, and resolved to invade the possession of some other spider, since it could not make a web of its own. It formed an attack upon a neighbouring fortification with great vigor, and at first was as vigorously repulsed. Not daunted, however, with one defeat, it continued to lay siege to another's web for three days, and at length, having killed the occupier, actually took possession. ...When smaller flies happen to fall into the snare, the spider does not sally out at once, but very patiently waits till sure of them; for on approaching, the terror of its appearance might give the captive strength sufficient to get loose; the manner then is to wait patiently till, by ineffectual and impotent struggles, the captive has wasted all its strength, and then it becomes a certain and easy conquest.

The insect I am now describing lived three years; every year it changed its skin, and got a new set of legs. I have sometimes plucked off a leg, which grew again in two or three days. At first it dreaded my approach to its web; but at last it became so familiar as to take a fly out of my hand, and upon my touching any part of the web, would immediately leave its hole, prepared either for a defense or an attack.

Goldsmid.

A HUNT IN A HORSE POND.⁹

PRAY what is there to be found in a horse-pond except mud, dead dogs and cats, and duck-weed? the reader may ask. Pray what is to be found in that trumpery ball they call the earth? the "man in the moon" may demand of his neighbour Saturn as they both come out for their evening stroll. The answer to such questions is simply "life;" life in all diversity of form, beautifully and wonderfully arranged, each individual deriving benefit from the well-being of the mass; the mass itself prospering in ratio with the individual.

To the inhabitants of the pond, the pond is the world; to the inhabitants of the world, the world, as compared to space, is but a pond; and when the adventurous lizard has made a voyage of discovery round his pond, he has as much right, comparatively speaking, to boast of his performance to his fellow-lizards, as Captain Cook had, when he first sailed round the world, to write two thick volumes for the information of his fellowmen... Well, let us have a look at the pond-world; choose a dry place at the side, and fix our eyes steadily upon the dirty water: what shall we see? Nothing at first; but wait a minute or two; a little round black nob appears in the middle; gradually it rises higher and higher, till at last you can make out a frog's head, with his great eyes staring hard at you, like the eyes of the frog in the woodcut facing Æsop's fable of the frog and the bull; not a bit of his body do you see, he is much too cunning for that, he does not know who or what you are; you may be a heron, his mortal enemy, for aught he knows... You move your arm, he thinks it is the heron's bill coming; down he goes again, and you see him not; a few seconds, he regains courage and reappears, having probably communicated the intelligence to the other frogs; for many big heads and many big eyes appear in all parts of the pond, looking like so many hippopotami on a small scale... Soon a conversational "wurk, wurk, wurk" begins; you don't understand it; luckily, perhaps, as from the swelling in their throats it is evident that the colony is outraged by the intrusion, and the remarks passing are not complimentary to the intruder... These frogs are all respectable, grown-up, well-to-do frogs, and they have in this pond duly deposited their spawn, and then, hard-hearted creatures! left it to its fate; it has, however, taken care of itself, and is now hatched, at least that part of it which has escaped the hands of the gypsies, who not unfrequently prescribe baths of this natural jelly for rheumatism.

The tadpoles are cannibals. You ask a proof: last year I

went, with a ~~tin~~ quart pot in my hand, toe-biter hunting on Clapham Common, and brought home exactly a quart of tadpoles; these I emptied into a tub in the beer-cellar; there they lived, being fed on meat several days, till one evening, on sending for a glass of the all-refreshing fluid, up comes John with half a smile on his face, and simpers out, "If you please, sir, I have brought the beer, but I have upset the tadpoles" ... On arriving at the scene of the disaster, there were the poor things high and dry on the floor. I restored them to their tub, but forgot to put back their meat. The next morning, I found some had not recovered their accident, and round the bodies of their departed brethren were crowded the cannibal survivors, eating and pulling away, each for himself.

Come again to the horse-pond a few weeks after the tadpole era, and you will find hundreds of lively little frogs, no longer black specks, but having lost their gills, and their tails, and their ferocious appetites, sent forth to fight their way in the world.

Frogs feed principally upon beetles, which they find among the tufts of grass by the sides of the ponds. They do not, I think, grope about among the grass for their prey, but rather wait till the beetles run near them, and then they easily catch them by means of their projectile tongue. I have examined the stomachs of many frogs just caught, and have found both slugs, beetles, and caterpillars... One year, when the wire-worm was proving very destructive to the turnips, I examined some frogs from a field swarming with it; the frogs were quite gorged with the worm, and must have done much good to the farmer. I mentioned the fact to him, and he issued an edict for the preservation of the frogs.

The green tree-frogs are used to this day in Germany as barometers; they are placed in tall bottles, with little wooden ladders. The steps of the ladder mark, as it were, the degrees; the frogs always go up towards the top in fine weather, and lower down at the approach of bad weather.

Curiosities of Natural History.

THE TAIL OF A TADPOLE.

A BLADE of grass is a world of mystery, "would men observingly distil it out." When my erudite friend, Dr. Syntax, glancing round my workroom, arrested his contemptuous eye on a vase abounding in tadpoles, and asked me with a sniffing superiority: "Do you really mean to say you find any interest

in those little beasts?" I energetically answered: "As much as you find in books." "H'm!" grunted Syntax.

"Very absurd, isn't it? But we have all our hobbies. I can pass a bookstall on which I perceive that the ignorance of the bookseller permits him to exhibit an edition of Persius among the rubbish at 'one shilling each.' The sight gives me no thrill—it does not even slacken my rapid pace... But I can't so easily pass a pond in which I see a shoal of tadpoles swimming about, as ignorant of their own value, as the bookseller is of Persius. I may walk on, but the sight has sent a slight electric shock through me. Why, sir, there is more to me in the *tail* of one of those tadpoles than in all the poems of that obscure and dreary Persius. But I won't thrash your Jew unless you thrash mine."

"Why, what on earth can you do with the tail?"

"Do with it? Study it, experiment on it, put it under the microscope, and day by day watch the growth of its various parts. At first it is little but a mass of cells. Then I observe some of these cells assuming a well-known shape, and forming rudimentary blood-vessels. I also observe some other cells changing into blood-cells. Then the trace of muscles becomes visible. These grow and grow, and the pigment-cells, which give their color to the tail, assume fantastic shapes."

"Very interesting, I dare say."

"You don't seem to think so, by your tone. But look in this vase: here you see several tadpoles with the most apologetic of tails—mere stumps, in fact. I cut them off nine days ago."

"Will they grow again?"

"Perfectly; because, although the frog dispenses with a tail, and gradually loses it by a process of resorption as he reaches the frog form, the tadpole needs his tail to swim with; and Nature kindly supplies any accident that may deprive him of it."

"Yes, yes," added Syntax, glad to feel himself once more in the region of things familiarly known: "just like the lobster, or the crab, you know. They tear off their legs and arms in the most reckless manner, yet always grow them again."

"And would you like to know what has *become* of these tails?"

"Aren't they dead?"

"Not at all. 'Alive and kicking.'"

"Alive after nine days? Oh! oh!"

"Here they are in this glass. It is exactly nine days since they were cut off, and I have been watching them daily under

the microscope. I assure you that I have seen them *grow*, not *larger*, indeed, but *develope* more and more, muscle-fibres appearing where no trace of fibre existed, and a cicatrice forming at the cut end."

"Come, now, you are trying my gullibility!"

"I am perfectly serious. The discovery is none of mine. It was made by M. Vulpian in Paris. He says that the tails constantly live many days—as many as eighteen on one occasion; but I have never kept mine alive more than eleven. He says, moreover, that they not only grow, as I have said, but manifest sensibility, for they twist about with a rapid swimming movement when irritated. I have not seen this; but M. Vulpian is too experienced a physiologist to have been mistaken; and with regard to the growth of the tails, his observations are all the more trustworthy because he daily made drawings of the aspect presented by the tails, and could thus compare the progress made."

"Well, but I say, how *could* they live when separated from the body? our arms or legs don't live; the lobster's legs don't live."

"Quite true; but in these cases we have limbs of a complex organisation, which require a complex apparatus for their maintenance; they must have blood, the blood must circulate, the blood must be oxygenated—"

"Stop, stop; I don't want to understand why our arms can't live apart from our bodies. They *don't*. The fact is enough for me. I want to know why the tail of a tadpole can live apart from the body."

"It *can*. Is not the fact enough for you in that case also? Well, I was going to tell you the reason. The tail will only live apart from the body so long as it retains its early immature form; that is to say, so long as it has not become highly organised. If you cut it off from a tadpole which is old enough to have lost its external gills a week or more, the tail will *not* live more than three or four days. And every tail will die as soon as it reaches the point in its development which requires the circulation of the blood as a necessary condition."

"But where does it get food?"

"That is more than I can say. I don't know that it *wants* food. The power of abstinence possessed by reptiles is amazing. I was reading the other day an account of a reptile which had been kept in the Boston Museum eight-and-twenty months without any food, except such as it might have found in the small quantity of dirty water in which it was kept."

"Really I begin to think there is more in these little beasts

than I suspected. But you see it requires a deal of study to get at these things."

" Not more than to get at any of the other open secrets of Nature. But since you are interested, look at these tails as the tadpoles come bobbing against the side of the glass. Do you see how they are covered with little white spots ? "

" No."

" Look closer. All over the tail there are tiny cotton-like spots. Take a lens if your unaccustomed eye isn't sharp enough. There, now you see them."

" Yes ; I see a sort of *fluff* scattered about."

" That fluff is an immense colony of parasites. Let us place the tadpole under the microscope, and you will see each spot turn out to be a multitude of elegant and active animals, having bodies not unlike a crystal goblet supported on an extremely long and flexible stem, and having round their *rim* or mouth a range of long delicate hairs, the incessant motion of which gives a wheel-like aspect, and makes an eddy in the water which brings food to the animal."

" Upon my word this is really interesting ! How active they are ! How they shrink up, and then, unwinding their twisted stems, expand again ! What's the name of this thing ? "

" *Vorticella*. It may be found growing on water-fleas, plants, decayed wood, or these tadpoles. People who study the animalcules are very fond of this *Vorticella*."

" Well, I never could have believed such a patch of fluff could turn out a sight like this : I could watch it for an hour. But what are those small yellowish things sticking on the side of these parasites ? "

" Those, my dear Syntax, are also parasites."

" What, parasites living on parasites ? "

" Why not ? Nature is economical. Don't you live on beef, and mutton, and fish ? don't these beefs, muttons, and fish live on vegetables and animals ? don't these vegetables and animals live on other organic matters ? Eat and be eaten is one law : live and let live is another."

The learned Doctor remained thoughtful ; then he screwed up one side of his face into frightful contortions, as with the eye of the other he resumed his observations of the *Vorticella*. I was called away by a visitor to whom I didn't care to show my tadpoles, because to have shown them would have been to forfeit his esteem for ever. He doesn't think very highly of me as it is, but has a misty idea that I occupy myself with science ; and as science is respectable and respected, the misty idea that after all I *may* not be an idiot, keeps his contempt in abeyance.

But were he once to enter my work-room, and see its bottles, its instruments, its preparations, and, above all, the tadpoles, I should never taste his champagne and claret again.

G. H. Lewes: "Once a Week."

THE BADGER.

AMONGST the aboriginal inhabitants of our wilder districts, who are likely to be soon extirpated, we may reckon that ancient, peaceable, and respectable quadruped, the badger: of an ancient family he certainly is; the fossil remains which have been found, prove his race to have been co-existent with that of the mammoths and megatheriums which once wandered over our islands... Though the elk and beaver have long since ceased to exist among us, our friend, the brock, still continues to burrow in the solitary and unfrequented recesses of our larger woods. Persevering and enduring in his every-day life, he appears to have been equally so in clinging to existence during the numerous changes which have passed over the face of the globe since the first introduction of his family into it... Notwithstanding the persecutions and indignities that he is unjustly doomed to suffer, I maintain that he is far more respectable in his habits than we generally consider him to be. "Dirty as a badger," is a phrase often repeated, but quite inapplicable to him. As far as we can learn of the domestic economy of this animal when in a state of nature, he is remarkable for his cleanliness: his extensive burrows are always kept perfectly clean, and free from all offensive smell; no filth is ever found about his abode; everything likely to offend his olfactory nerves is carefully removed... I once, in the north of Scotland, fell in with a perfect colony of badgers; they had taken up their abode in an unfrequented range of wooded rocks, and appeared to have been little interrupted in their possession of them. The footpaths to and from their numerous holes were beaten quite hard; and what is remarkable and worthy of note, they had different small pits dug at a certain distance from their abodes, which were evidently used as receptacles for all offensive filth; every other part of their colony was perfectly clean.

A solitary badger's hole, which I once had dug out during the winter season, presented a curious picture of his domestic and military arrangements: a hard and long job it was for two men to achieve; the passage here and there turned in a sharp

angle round some projecting corners of rock, which he evidently makes use of when attacked, as points of defence, making a stand at any of these angles where a dog could not scratch to enlarge the aperture, and fighting from behind his stone buttress... After tracing out a long winding passage, the workmen came to two branches in the hole, each leading to a good sized chamber; in one of these was stored a considerable quantity of dried grass, rolled up into balls as large as a man's fist, and evidently intended for food; in the other chamber there was a bed of soft dry grass and leaves, and the sole inhabitant was a peculiarly large old dog-badger.

Besides coarse grasses, the badger's food consists of various roots; amongst others, I have frequently found about his hole the bulb of the common wild blue hyacinth. Fruit of all kinds and esculent vegetables form his repast, and I fear that he must plead guilty to devouring any small animal that may come in his way, alive or dead; though not being adapted for the chase, or even for any very skilful strategy of war, I do not suppose that he can do much in catching an unwounded bird or beast... Eggs are his delight, and a partridge's nest with seventeen or eighteen eggs must afford him a fine meal, particularly if he can surprise and kill the hen-bird also; snails and worms which he finds above ground during his nocturnal rambles are likewise included in his bill of fare. "*Highland Sports.*"



RED DEER.

THE red deer is a very hardy animal; he does not by choice subsist on coarse food, but eats close, like a sheep. With his body weakened and wasted during the rutting season in the autumn, exposed to constant anxiety and irritation, engaged in continual combats, he feels all the rigors of winter approaching before he has time to recruit his strength: the snow-storm comes on, and the bitter blast drives him from the mountains. Subdued by hunger, he wanders to the solitary shielings of the shepherds; and will sometimes follow them through the snow, with irresolute steps, as they are carrying the provender to the sheep... He falls, perhaps into moss pits and mountain tarns, whilst in quest of decayed water plants, where he perishes prematurely from utter inability to extricate himself. Many, again, who escape starvation, feed too greedily on coarse herbage at the first approach of open weather, which produces a murrain amongst them, not unlike the rot in sheep, of which they frequently die... Thus, natural causes, inseparable

from the condition of deer in a northern climate, and on a churlish soil unsheltered by woods, conspire to reduce these animals to so feeble a state that the short summer which follows is wholly insufficient to bring them to the size they are capable of attaining under better management.

There is no animal more shy or solitary by nature than the red-deer. He takes the note of alarm from every living thing on the moor — all seem to be his sentinels. The sudden start of an animal, the springing of a moor-fowl, the complaining note of a plover, or of the smallest bird in distress, will set him off in an instant... He is always most timid when he does not see his adversary, for then he suspects an ambush. If, on the contrary, he has him in full view, he is as cool and circumspect as possible; he then watches him most acutely, endeavors to discover his intention, and takes the best possible method to defeat it... In this case, he is never in a hurry or confused, but repeatedly stops and watches his disturber's motions; and when at length he does take his measure, it is a most decisive one; a whole herd will sometimes force their way at the very point where the drivers are the most numerous, and where there are no rifles; so that I have seen the hill-men fling their sticks at them, while they have raced away without a shot being fired.

When a stag is closely pursued by dogs, and feels that he cannot escape from them, he flies to the best position he can, and defends himself to the last extremity. This is called going to bay... If he is badly wounded, or very much over-matched in speed, he has little choice of ground; but if he is pursued in his native mountains, he will select the most defensible spot he has it in his power to reach; and woe be unto the dog that approaches him rashly. His instinct always leads him to the rivers, where his long legs give him a great advantage over the deer-hounds. Firmly he holds his position, whilst they swim powerless about him, and would die from cold and fatigue before they could make the least impression on him... Sometimes he will stand upon a rock in the midst of the river, making a most majestic appearance, and in this case it will always be found that the spot on which he stands is not approachable on his rear. In this situation he takes such a sweep with his antlers, that he could exterminate a whole pack of the most powerful lurchers that were pressing too closely upon him in front. He is secure from all but man, and the rifle shot must end him. Superior dogs may pull him down when running, but not when he stands at bay.

The deer, like many other animals, seems to foresee every

change of weather: at the approach of a storm he leaves the higher hills, and descends to the low grounds, sometimes even two days before the change takes place. Again, at the approach of a thaw, he leaves the low grounds and goes to the mountains by a similar anticipation of change. He never perishes in snow-drifts, like sheep, since he does not shelter himself in hollows, but keeps the bare ground, and eats the tops of the heather.

Harts are excellent swimmers, and will pass from island to island in quest of hinds or change of food. It is asserted that the rear hart in swimming rests his head on the croup of the one before him; and that all follow in the same manner. They do not run well up hill when fat, but they will beat any dog in such oblique paths as have been trodden out by them in the precipitous and stony parts of the mountain... The hardness and sharp edges of their hoof give them great tenacity, and prevent them suffering from the stones, whilst a dog, having no defense against injury, is obliged to slacken his pace. The bone also of a deer's foot is small and particularly hard, and it is this peculiar construction which renders him as strong as he is fleet.

Scrope.

THE CHAMOIS, AND CHAMOIS HUNTING.

THE animals which lend the greatest charm to the mountains are the chamois; those beautiful, swift-footed goats of the rock, which wander in small herds through the loneliest districts of the Alps, people the highest ridges, and course rapidly over leagues of ice-fields. Though much resembling the goat, the chamois is distinguished from it by longer and larger legs, a longer neck, a shorter and more compact body, and especially by its horns, which are black and curved like a hook... These horns are much used in ornamenting those ingenious fabrics which the Swiss peasants make, and which travellers bring back as memorials from that country.

They live together in herds of five, ten, or twenty. Their grace and agility are very remarkable. They bound across wide and deep chasms, and balance themselves on the most difficult ledges; then, throwing themselves on their hind legs, reach securely the landing place, often no bigger than a man's hand, on which their unerring eye has been fixed. It is difficult to give a trustworthy account of this noble animal's agility.

Their wonderful sense of smell, sight, and hearing, preserves the chamois from many perils. When they are collected in troops, they will appoint a doe as sentinel, which grazes alone

at a little distance, while the others are feeding or gambolling, and looks round every instant snuffing the air with her nose... If she perceives any danger, she gives a shrill whistle, and the rest fly after her at a gallop. But their most acute sense is that of smell. They scent the hunter from an immense distance if he stands in the direction of the wind... The trained chamois hunters of Switzerland belong to the poorer classes. They are a sturdy frugal race, inured to all weathers and familiar with the details of the mountains, the habits of the animals, and the art of hunting them... The hunter needs a sharp eye, a steady hand, a robust frame, a spirit resolute, calm, ready and circumspect; and, besides all this, good lungs and untiring energy. He must be not only a first-rate shot, but also a first-rate climber; for the chamois hunter often finds himself in positions where he must exert every limb and muscle to the utmost, in order to support or push himself forward.

The ordinary preparations of the hunter consist of a warm dress, with a cap or felt hat, a strong Alpine staff, a pouch with powder, bullets, and telescope, bread and cheese, and a little flask of spirits. In order to procure something warm, he takes an iron bowl and a portion of meal, roasted and salted beforehand, and makes it into a porridge over a fire, morning and evening, mixing it with water. But the most essential parts of the equipment are a pair of stout mountain shoes and a gun.

The hunter starts by starlight in the evening, or at midnight, in order to gain the highest hunting ground before sunrise. He knows the haunts of the game, their favorite pastures and hiding-places, and directs his course accordingly. The principal point is always to keep the animals before the wind; for, should the lightest breeze be wafted from him to the chamois, the creature scents him at an immense distance, and is lost. Many hours of patient waiting and watching must be passed before he can get within shot of them.

The chase is not only toilsome, but dangerous. The hunter is often led by the eagerness of his pursuit to the brink of fearful precipices, where a single false step may cause instant death; or to narrow ridges of rock and slippery ice, where it is hard to find firm footing, and where a fall might be fatal... Sometimes he is allured to a spot where he can neither advance nor recede. Sometimes a sharp frost overtakes the weary hunter, and cramps his limbs. If he yields to an almost unconquerable impulse to sit down, he immediately falls asleep, never to wake again. Sometimes a large falling stone wounds him or

dashes him into the abyss; or an avalanche overwhelms him, and buries him deep beneath the snow... But no enemy is more dangerous than the fog, when it surprises him in the awful labyrinth of peaks, leagues and leagues above the dwellings of man, closing in so thickly that often he cannot see six feet before him, and must inevitably be lost unless great presence of mind and local knowledge can extricate him from the peril. His situation is yet worse if the fog be followed by a snow-storm covering up every track on the ground before him.

The actual profits of the chase bear no proportion to the perils, labor, and loss of time which it involves. And yet the hunters have a perfect passion for the sport. One at Zurich, who had his leg cut off, gratefully sent his surgeon, two years afterwards, half of a chamois which he had killed, remarking at the same time that the chase did not get on so well with a wooden leg, but he hoped to kill many a chamois yet. This man was seventy-one years old when he lost his leg... Saussure's guide said to him, "A short time since I made a very happy marriage. My father and grandfather both met their end in chamois hunting, and I feel convinced I shall perish in the same manner, but if you would make my fortune on condition I should never hunt, I could not accept it." Two years afterwards he fell down a precipice, and was dashed in pieces.

It has been often remarked that this occupation exercises a decided influence on the character of the hunter. Undoubtedly, the constant warfare with peril, hunger, thirst, and cold which it entails, and the patience, resolution, and dexterity which it calls into such constant practice, must, after ten or twenty years of life, mark the tone of thought and feeling in no slight degree. Accordingly, we find the chamois hunter generally silent, prompt, and decided in word and action, and at the same time temperate, frugal, contented, and easily reconciled to unavoidable evils.

THE LION OF ALGERIA.

IT seems that, after all, we knew little about the lion till Gérard, an officer in the French army in Algeria, made that animal his study, and enlightened us. We hardly knew what the lion was like, to begin with; for we judged of him by the specimens we behold caged in menageries—animals, as Gérard says, taken from the teat when puppies, deprived of the liberty and free mountain air essential to them—in fact, reared like rabbits in a hutch. But wild, and in Algeria, the lion attains a size beyond our ideas; and, with his magnificent mane, puts on an

appearance which would absolutely frighten the poodle-like specimens of his kind to be found in zoological gardens.

We have been equally mistaken as to the lion's character; and our mistakes have arisen from this fact, that naturalists and travellers have been content to observe him in the *day* only, forgetting, at the same time, that he belongs to the feline race, which is quite out of its element in the sunshine. The fact is, that the existence of a lion is divided into two distinct portions, which assume two distinct phases; and thus numberless errors with regard to him have arisen. These two periods are the day and the night... Now in day-time, his habit is to retire into the shade and silence of the forest, there to sleep, and to digest at his ease the rather heavy meal of the night before. Thence, because a man has chanced to meet face to face, and with impunity, a lion in such circumstances, or when, compelled by thirst, insects, or the burning sun, he has been lazily seeking fresh quarters, it has been concluded that he will not attack man... It has been forgotten that the animal was half asleep, and had his stomach full, perhaps a little fuller than was convenient. The truth simply is, that the lion does not slay for the pleasure of slaying; he kills to eat, or to rid himself of an enemy when attacked; and in a country like Algeria, abounding with flocks and herds, the lion is never hungry during the day... The natives know that so well, that, while they do not fear to travel alone in daylight, they take care to be at home by the hour when he leaves his den to seek his supper. At night the Arabs never go many yards from their tents alone.

Gérard the lion-slayer, who would go down into the lion's path in darkness, declares that an unarmed man who meets a lion in the night is undoubtedly lost. Even if he be armed, the chances are immensely against him, owing to the fact that a first shot, however well aimed, seldom or never kills a lion; and a lion mortally wounded is infinitely more dangerous than a lion whole.

Lions usually couple about the end of January; but so many lionesses are cut off in infancy by teething that there are always many more males than females, and the lion has considerable difficulty in providing himself with a wife... The lion is the slave of his wife. She always takes precedence; when she stops, he stops. On arriving at the *douar* (a collection of Arab tents, what we would call a "village") which is to furnish their supper, she lies down while he leaps into the inclosure, and brings to her the booty. He watches her with satisfaction while she eats, taking care that no one shall disturb her repast;

and not until her appetite is satisfied does he begin his meal ... When she is about to be a mother, *i.e.* towards the end of December, they seek a lonely ravine, and there she presents her lord with one, two, and sometimes three puppies, generally one male and one female. While young, the mother never quits them for an instant, and the father only quits them to bring home supper... When they are three months old their weaning commences. The mother accustoms them gradually to it, by absenting herself every day for some hours, and feeding them on little morsels of mutton carefully skinned. The father, whose character is grave, becomes fatigued by the sports of his children, and for the sake of tranquillity removes his lodging to a distance; within reach, however, to render assistance in case of need... The Arabs whenever they discover the existence of a litter of young lions, watch their opportunity, when the old ones are absent to carry off the pups. But the experiment is dangerous; as, if the robbers should happen to meet the lion or the lioness in returning, the chances are that more than one Arab burnous is made bloody.

At the age of four or five months the young ones follow their mother to the border of the forest, where their father brings them their supper. At six months old they accompany father and mother in all nocturnal expeditions... From eight to twelve months, under their parents' tuition, they learn to attack sheep, goats, and even bulls, but they are so awkward that they usually wound ten for one they kill; and it is not till they are two years old that they can kill a horse or a bull scientifically—that is to say, by a single gripe in the throat... While their education is thus in progress, they are dreadfully ruinous to the Arabs, since the family does not content itself with killing the cattle required for its own consumption, but kills that the children may learn how to kill. At three years old the young ones quit home, and set up for themselves, becoming fathers and mothers in their turn.

Lions are full grown at eight years old; at that age they arrive at their complete size and strength, and not till then does the male (a third larger than the female) acquire his full mane. A lion's life lasts from thirty to forty years... He annually consumes or kills cattle to the value of 240*l.*, all the property of the poor Arabs, who have destroyed half the woods of Algeria to keep these dangerous animals at a distance.

There are three varieties of lion in Algeria: the black, the grey, and the tawny. The black lion is not so numerous, nor quite so large as the others; but his head is nobler, his chest

broader, his limbs stronger ; altogether, he is the most formidable animal. His mane alone is black ; long, thick, terrible ; the rest of his robe is of a tawny hue, deepening at the ends, and fringes into brown... The grey and tawny varieties differ only from the black in the color of their mane ; they are a little larger, and not so thick-set. These varieties, too, lead a wandering life, like most beasts of the forest ; but the black lion, having established himself in comfortable quarters, often abides there for thirty years. He rarely descends to attack the *douars*, or villages, but does not extend this forbearance to the herds, which he takes care to meet on their return at evening from pasture.

The roar of the lion, as Gérard first heard it, is worth description. After waiting for an hour, the first grumblings reached his ear, as if the lion were talking to himself ; and these grew louder and louder, till the very roof of the hunter's hiding place trembled at the sound. The roarings were not very frequent—sometimes a quarter of an hour or more elapsed between each... They began with a sort of sigh, deep and guttural, yet so prolonged that it must have cost no effort ; this sigh was succeeded by silence for a few seconds, and then came a growl from the chest, which seemed to issue through closed lips and swollen cheeks. This growl, beginning in a very bass note, gradually rose higher and louder till the roar burst forth in all its grandeur, and finished as it commenced. Thus the lion always roars... The Arabs call it thunder ; and certainly nothing earthly can compare with it. The bellowing of a furious bull is no more like it than a pistol shot is like the sound of a thirty-two pounder. Imagine what terror such a roar must inspire, heard in the lonely mountain passes and under the silent stars !

It is quite clear on comparing the account of the French lion-hunter, Gérard, and the English lion-hunter, Gordon Cumming, that the lion of Northern Africa is far more formidable than the lion of Southern Africa. Not only does Cumming seem to have triumphed without difficulty, but he had to combat lions who ran away from the dogs, and generally avoided coming to blows with him... This is quite contrary to the habit of the North African lion. He is but too ready to attack ; hungry or not, the sight of an enemy rouses his fury at once ; and as to cowardice, Gérard's narrative leaves no room for such a suspicion. Indeed, the lion, so far from running away from the hunter, will attack a whole tribe of armed Arabs, and often scatter them to the winds. An Arab will make nothing of going out to fight men, but he never thinks of attacking a lion

unless supported by at least twenty of his tribe, armed with muskets ; and even then, if the lion is killed, it is not until he has committed serious damage in their ranks. For a long while they suffer him to devastate their *douars* and carry off their cattle. It is not until their losses have driven them to desperation, that they resolve on attacking him in his lair, and then they always choose the day-time... Oftener, however, they make use of stratagem to destroy him. They decoy him into a hole or pitfall, and gathering round the edge of the pit—the mighty animal lying resignedly at the bottom—they kill him by repeated gunshots ; the women and children, all the while, hurling now a stone, and now an imprecation, at the head of their noble enemy... Ordinarily, it will take ten or a dozen balls to kill him ; and these he receives without stirring an inch or uttering a sound ; but at length, feeling his death-wound, majestically lifts his head, throws a contemptuous glance at his enemies, and couches down to die... At other times, the Arabs ensconce themselves in pits, near a lion path ; these pits being covered over with a solid-built screen of tree-trunks and stones, from between the crevices of which they fire in volleys at the lion, which is decoyed near the spot by means of a sheep or wild boar, placed near the ambush.

Boys' Magazine.

ADVENTURE WITH A LION.

It is well known that if one in a troop of lions is killed, the others take the hint and leave that part of the country. So the next time the herds were attacked I went with the people, in order to encourage them to rid themselves of the annoyance by destroying one of the marauders. We found the lions on a small hill about a quarter of a mile in length, and covered with trees... A circle of men was formed round it, and they gradually closed up, ascending pretty near to each other. Being down below on the plain with a native schoolmaster, named Mebálmé, a most excellent man, I saw one of the lions sitting on a piece of rock within the now closed circle of men... Mebálmé fired at him before I could, and the ball struck the rock on which the animal was sitting. He bit at the spot struck, as a dog does at a stick or stone thrown at him ; then leaping away, broke through the opening circle and escaped unhurt. The men were afraid to attack him, perhaps on account of their belief in witchcraft... When the circle was reformed, we saw two other lions in it, but we were afraid to

fire, lest we should strike the men, and they allowed the beasts to burst through also. If they had acted according to the custom of the country, they would have speared the lions in their attempt to get out... Seeing we could not get them to kill one of the lions, we bent our footsteps towards the village; in going round the end of the hill, however, I saw one of the beasts sitting on a piece of rock as before, but this time he had a little bush in front. Being about thirty yards off, I took a good aim at his body through the bush and fired both barrels into it... The men then called out, "He is shot, he is shot!" Others cried, "He has been shot by another man too; let us go to him!" I did not see anyone else shoot at him, but I saw the lion's tail erected in anger behind the bush, and turning to the people said, "Stop a little till I load again" ... When in the act of ramming down the bullets I heard a shout. Starting and looking half round, I saw the lion just in the act of springing upon me. I was upon a little height; he caught my shoulder as he sprang, and we both came to the ground below together. Growling horribly close to my ear, he shook me as a terrier dog does a rat... The shock produced a stupor similar to that which seems to be felt by a mouse after the first shake of the cat. It caused a sort of dreaminess, in which there was no sense of pain nor feeling of terror, though quite conscious of all that was happening. It was like what patients partially under the influence of chloroform describe, who see all the operation, but feel not the knife... This singular condition was not the result of any mental process. The shake annihilated fear, and allowed no sense of horror in looking round at the beast. This peculiar state is probably produced in all animals killed by the carnivora; and if so, is a merciful provision by our benevolent Creator for lessening the pain of death... Turning round to relieve myself of the weight, as he had one paw on the back of my head, I saw his eyes directed to Mebálme, who was trying to shoot him at a distance of ten or fifteen yards. His gun, a flint one, missed fire in both barrels; the lion immediately left me, and attacking him, bit his thigh... Another man, whose life I had saved before, after he had been tossed by a buffalo, attempted to spear the lion while he was biting Mebálme. Him he left, and caught this man by the shoulder, but at that moment the bullets he had received took effect, and he fell down dead... The whole was the work of a few moments, and must have been his paroxysm of dying rage. Besides crunching the bone into splinters, he left eleven teeth wounds on the upper part of my arm.

Livingstone.

THE HIPPOPOTAMUS.

THE hippopotamus is a most singular animal, and has not aptly been likened to a form intermediate between an overgrown hog and a high-fed bull without horns and with cropped ears. Each of its jaws is armed with two formidable tusks; those in the lower, which is always the longest, attain, at times, two feet in length. The inside of the mouth has been described by a recent writer as resembling "a mass of butcher's meat" ... The size of the body is not much inferior to that of the elephant; but its legs are much shorter: so low, indeed, is the animal at times, that the belly almost touches the ground. The hoofs are divided into four parts, unconnected by membranes... The skin, which is of nearly an inch in thickness, is destitute of covering, except a few scattered hairs on the muzzle, edges of the ears, and tail. The color of the animal when on land is of a purple brown; but when in the water of a dark blue. When the hippopotamus is enraged, its appearance is most appalling.

The adult male attains a length of eleven or twelve feet, the circumference of the body being nearly the same. Its height, however, seldom exceeds four and a half feet. The female is a good deal smaller than the male, but in general appearance the sexes are much alike.

When in the water, the hippopotamus swims and dives like a duck, and, considering its great bulk and unwieldiness, in a manner perfectly astonishing. When on land, however, what with its dumpy legs and the weight they have to support, its progress is anything but rapid. Even were the beast to charge, provided that the locality were tolerably open, a man would have no great difficulty in getting out of its way. It is seldom met with at any considerable distance from the water, for which it instantly makes when disturbed.

The hippopotamus is a herbaceous animal; its chief food, in the selection of which it appears rather nice, consists of grass, young reeds, and succulent roots. When it is located near cultivated districts, it is very destructive to plantations of rice and grain. During the day it remains in the water, but comes on shore at night, destroying as much by the treading of its enormous feet as by its voracity.

Naturalists and others represent the hippopotamus as of a mild and inoffensive disposition. It may be so in regions where it is unacquainted with man, but I am inclined to believe they are not quite such harmless animals as we are given to understand ... In ascending the Teoge I saw comparatively little

of them; and used almost to ridicule the natives on account of the timidity they showed when these beasts made their appearance. But on my return journey I very frequently encountered the hippopotamus; more than once I narrowly escaped with life, and found that the men had good reason to fear this truly formidable animal.

The sagacity of the hippopotamus is very considerable. The habits of the animal are opposed to our becoming intimately acquainted with it; yet its adroitness in guarding against assailants, in avoiding pits dug purposely to entrap it, and in migrating from localities where it may have discovered ambuscades,— all are evidence that it is far from the stupid animal it is frequently described.

The hippopotamus is gregarious, and is usually found in troops of four, five, or six, and as many as twenty or thirty. It is amusing to watch these animals when congregated; and see them alternately rising and sinking as if impelled by some invisible agency; all the while snorting tremendoaly and blowing the water about in every direction. At other times they will remain perfectly motionless near the surface, with the whole or part of their heads protruding. In this position they look at a little distance like so many rocks.

The hippopotamus is a nocturnal animal, and seldom or never feeds during the day. He usually passes most part of the day in the water; but it is somewhat doubtful if this be not rather from necessity than choice. Indeed, in more secluded localities, one most commonly sees it reclining in some retired spot... As it is said, in the Book of Job, of behemoth (which is supposed to mean the hippopotamus), "he lieth under the shady trees, in the covert of the reeds and fens; the shady trees cover him with their shadows, the willows of the brook compass him about"... I have not unfrequently found the animal in this situation, and once shot an immense fellow while fast asleep with his head resting on the bank of a river.

The flesh of the hippopotamus is highly esteemed, and with justice. The tongue is reckoned a delicacy; and the fat is very excellent, and forms an excellent substitute for butter. In general, the flesh of wild animals has a peculiar and often strong flavor, but that of the hippopotamus is an exception... The hide is also much in request, and forms no mean article of commerce in the Cape Colony. The ancient Egyptians used it largely in the manufacture of shields, helmets, &c. But the most valuable part of the hippopotamus is its teeth (canine and incisors), which are considered greatly superior to elephant ivory, and when perfect and weighty have been known to fetch

as much as a guinea a pound. This ivory is chiefly used for artificial teeth.

The natives are accustomed to harpoon the hippopotamus in a somewhat similar manner to that practised with the whale. At the appointed time the men assemble at the rendezvous; and after everything has been duly arranged, and the canoes needed for the prosecution of the hunt drawn up on the raft, the latter is pushed from the shore and afterwards abandoned entirely to the stream, which propels the unwieldy mass gently and noiselessly onward... As soon as the position of the hippopotamus is ascertained, one or more of the most intrepid of the hunters stand prepared with harpoons, whilst the rest make ready to launch the canoes from the huge raft, should the attack prove unsuccessful. The bustle caused by preparations gradually subsides; conversation is carried on in a whisper, and everyone is on the look-out... The snorting and plunging become every moment more distinct; but a bend in the stream still hides the animal from view. The angle being passed, several dark objects are seen floating listlessly on the water, looking more like half-sunken rocks than living creatures. Ever and anon one or other of the shapeless masses is submerged, but soon reappears on the surface... On glides the raft with its sable crew, who are now worked up to the highest state of excitement. At length, the raft is in the midst of the herd, which appears quite unconscious of danger. Presently one of the animals is in immediate contact with the raft... Now is the critical moment. The foremost harpooner raises himself to his full height to give the greater force to the blow, and the next instant the fatal iron enters with unerring accuracy the body of the hippopotamus.

The wounded animal plunges violently, and dives to the bottom; but all his efforts to escape are unavailing. The line or the shaft of the harpoon may break; but the cruel weapon once imbedded in the flesh, owing to the thickness and toughness of the hide, cannot be withdrawn.

Andersen.



AFRICAN MONKEYS ON MARCH.

ABOUT half way across a plain we were traversing, runs a beautiful stream, which coming down from the hills to the west of Mardemas, crosses the road, forming many pretty cascades and eddies with the large stones that occupy its bed; and, dashing onward, falls into a deep ravine, or crack in the plain, where at length it joins the Mareb... On the north side of the stream

are two copases or plantations, both growing so regularly, and the different trees so well distributed for effect of mass and color, that you might easily deceive yourself into the idea of the whole scene being carefully arranged by some landscape gardener of exquisite taste. Had it really been so, he could not have chosen a prettier spot, nor one where his labor would have been more profitably bestowed, than at the half-way halt on the wide and monotonous plain we were crossing. From the vicinity of water the grass round these plantations was a bright green, unlike the dry hay of the plain, and this formed no slight addition to its merits both in the eyes of the mules and their masters.

The ravine down which the brook fell was well wooded, and the trees were filled with the "tota," a beautiful little greenish-grey monkey, with black face and white whiskers. I followed a troop of these for a long time, while the porters and servants were resting, merely for the pleasure of watching their movements... If you go tolerably carefully towards them, they will allow you to approach very near, and you will be much amused with their goings-on, which differ little from those of the large no-tailed monkeys. You may see them quarrelling, making love, mothers taking care of their children, combing their hair, nursing and suckling them, and the passions, jealousy, anger, and love, as distinctly marked as in men.

The monkeys have their chiefs, whom they obey implicitly, and they practise a regular system of tactics in war, pillaging, &c. These monkey forays are managed with the utmost regularity and precaution... A tribe, coming down to feed from their haunt on the mountain, brings with it all its members, male and female, old and young. Some, the elders of the tribe, distinguishable by the quantity of mane covering their shoulders like a lion's, take the lead, peering over each precipice before they descend, and climbing cautiously to the top of every rock or stone, which may afford them a better view of the road before them... Others have their posts as scouts on the flank or rear; and all fulfil their duties with the utmost vigilance, calling out, at times, apparently to keep order among the motley pack which forms the main body, or to give notice of any real or imagined danger. Their tones of voice on these occasions are so distinctly varied, that a person much accustomed to watch their movements will at length fancy, and perhaps with some truth, that he can understand their signals.

The main body is composed of females, inexperienced males, and young people of the tribe. Those of the females who have

children carry them on their backs... Unlike the dignified of the leaders, the rabble go along in a most disorderly r, trotting on and chattering, without taking the least if anything, apparently confiding in the vigilance of couts... Here a few of the youth linger behind to pick tries off some tree, but not long, for the advancing rear-forces them to regain their places. There a matron pauses moment to suckle her offspring; and, not to lose time, its hair while it is taking its meal... Another younger probably excited by jealousy or by some sneering look or pulls an ugly mouth at her neighbour, and then uttering squeal highly expressive of rage, vindictively snatches rival's leg or tail. This provokes a retort, and a most like quarrel ensues, till a loud bark from one of the calls them to order... A single cry of alarm makes them lt, and remain on the alert, till another bark in a nt tone reassures them, and then they proceed on their

ived at the corn fields the scouts take their position on inences all round, while the remainder of the tribe col-rovision with all expedition, filling their cheek pouches as they can hold, and tucking the heads of corn under armpits... They show equal sagacity in searching for discovering at once the places where it is most readily in the sand, and then digging for it with their hands, ng one another if the quantity of sand to be removed be erable.

M. Parkyns.

S N A K E S.

ill divide all snakes whatever into two separate families, more, viz. those which have poisonous fangs and those have none.

poisonous fangs are invariably in the upper jaw, but are not fixed on the bone. They are always curved down-like the blade of a scythe. There is a little opening on convex part near the point. From this opening to the which is as sharp as a needle, the fang is quite solid, but from it to the root... This point may aptly be styled the er of death as it makes the wound, into which the poison irritated serpent flows through the hollow part of the

It is the fatal weapon which causes a snake to be so dreaded and condemns the whole race to universal detes-; although, in fact, not one snake in ten has been armed ture with the deadly fang. Still as all snakes are more

grinding of food in the mouth cannot be performed. The prey is laid hold of by these crooked little teeth, first instance, after which it is slowly swallowed, undergoing any change after entering the mouth.

At the root of the two poison fangs, are smaller and much too pliable and tender to inflict a wound. These are to be a provision by nature, in case accident or disease render the mature fangs unserviceable. Take away these two fangs and immediately the snake is rendered harmless.

Those amusing knaves who profess to be snake-charmers, always take care to have these fangs extracted before they exhibit their wonderful powers in the presence of a large multitude. If they dared to insert their hand into the mouth of a snake possessing these fangs uninjured, a bite would be the certain consequence and either death or excruciating pain the result... Snake-charmers taking advantage of the horror in which all serpents are held, contrive to make themselves to a nicety, either by extracting the poisonous fangs or by making free with those snakes which they have ascertained to have no fangs at all. In both cases those impudent fellows, known as snake-charmers, are perfectly free from danger as they find by experience that snakes are very docile creatures, and that they easily train them to their own liking, until they become as playful and familiar as kittens.

It would be difficult to demonstrate, why poison

fangs ; because a snake without these fangs can just as easily secure its prey as a snake with them.

In the damp and gloomy forests of Guiana, are to be found some of the largest snakes as yet discovered. There, basking in the noon-day sun wherever a discontinuance of the dense foliage will admit its rays to enter, these magnificent monsters enjoy an undisturbed repose during the day. When night sets in they leave their favorite haunts and silently glide forth in quest of food.

Most lovely are the colors of some snakes when exposed to the rays of a tropical sun, but they fade in death and cannot possibly be restored by any application at present known.

All snakes in gliding onwards take a motion from right to left or *vice versa*, but never up and down, the whole extent of the body being in contact with the ground, saving the head which is somewhat elevated. This is equally observable, both on land and in water. When we see a snake represented in an up and down attitude we therefore know the artist is to blame.

In no instance have I seen a snake act on the offensive. But when roused into action by the fear of sudden danger, 'tis then that in self-defense a snake will punish the intruder by a prick, not a laceration, from the poison fang, fatal or not fatal according to its size or virulence.

Waterton.

SNAKE BITES, AND THE USES OF SNAKES.

PEOPLE used to believe that snakes could be charmed. The Indian by various artifices professed to exercise a mysterious influence on the poisonous reptile which had the effect of pleasing or irritating it with impunity. The belief that the charmers can handle poisonous snakes without suffering hurt received a sad shock by a circumstance which occurred in Madras... One of the most noted serpent-charmers about the district, chanced one morning to get hold of a cobra of considerable size, which he had conveyed to his home. He was occupied abroad all day, and had not time to get the dangerous fang extracted from the serpent's mouth... In the evening, he returned to his dwelling, considerably excited with liquor, and began to exhibit tricks with his snakes to various persons who were around him at the time. The newly-caught cobra darted at his chin and bit it, making two marks like pin points... The poor juggler was sobered in an instant. "I am a dead man," he exclaimed; "nothing can save me." His professional knowledge was but too accurate. In two hours he was a corpse... I saw

him a short time afterwards; his friends and brother jugglers had gathered round him. "No, no; he only forgot one little word, one small portion of the charm." In fact, they declared that he was not dead at all, but only in a sort of swoon, from which he would recover in seven days. But the officers of the barracks close to which the deceased had lived, interfered in the matter. They put a guard of one or two men on the house, but of course the poor serpent-charmer never came to life again.

There remains, however, another, and that an important point, which must not be passed over in silence. It is, what can be done to save the life of a person who has been bitten by a cobra or any other poisonous serpent? ... It is within the bounds of possibility—may it not be so?—that the reader of these pages may be so unfortunate as to be bitten by a snake; my advice to him would be, instantly to suck the wound as hard as he can for some time... Care must be taken at the same time that the skin inside the mouth be perfect and unbroken; for, by a wise provision of nature, no external poison is an internal poison, and *vice versa*. Whether the saliva decomposes the poison or not, we are as yet ignorant; suffice it to say, that the poison of the snake, as has been frequently proved by experiment, is innocent when taken into the stomach, most deadly when applied to an external wound, however minute... We all of us recollect the story of Queen Eleanor, sucking the poison out of the wound in her husband's arm; and a wise and physiological queen she was; she could not have done better under the circumstances.

The flesh of snakes is not uncommonly eaten by the poor Bushman, and also by the Australian natives. Wandering along their vast deserts, and having but the bow and arrow to rely upon to kill an animal for their dinner, they often go many hours, nay even days, without flesh. The wild creatures soon find out that man is their enemy, and avoid him... Great as may be the natural cunning of the savage in the capture of his prey, greater still is the wariness of the wild deer or kangaroo to get out of the way. The puny arrows of the Bushman would fail to bring down any large animal, it would only go away and die of the wound; he therefore tips his arrow with poison... This poison is easily soluble in the blood of the victim, and his exertions to escape by flight only hastens the operation of the poison; as the motions of the muscles, and the accelerated action of the heart, soon distribute the fatal fluid throughout the system, and the animal quickly falls.



THE BUFFALO AND HIS FEATHERED FRIEND.

THE animal in America commonly called the buffalo is erroneously named. Its proper name is the bison, and this animal differs considerably in its appearance and habits from the true buffalo of South Africa. Africa abounds in buffaloes; we see large herds of them feeding in all directions by day. When much disturbed by man, they retire into the densest parts of the forest, and feed by night only... We secured a fine large bull by crawling close to a herd; when shot, he fell down, and the rest, not seeing their enemy, gazed about, wondering where the danger lay. The others came back to it; and when we showed ourselves, much to the amusement of my companions, they lifted him up with their horns, and half supporting him in the crowd, bore him away... All these wild animals usually gore a wounded companion, and expel him from the herd; even zebras bite and kick an unfortunate or a diseased one. It is intended by this instinct that none but the perfect and healthy ones should propagate the species. In this case they manifested their usual propensity to gore the wounded, but our appearance at that moment caused them to take flight, and this, with the goring continued a little, gave my men the impression that they were helping away their wounded companion... He was shot between the fourth and fifth ribs; the ball passed through both lungs and a rib on the other side, and then lodged beneath the skin. But though it was two ounces in weight, yet he ran off some distance, and was secured only by the people driving him into a pool of water, and killing him there with their spears... The herd ran away in the direction of our camp, and then came bounding past us again. We took refuge on a large ant-hill; and as they rushed by us at full gallop, I had a good opportunity of seeing that the leader of a herd of about sixty was an old cow; all the others allowed her a full half length in their front... On her withers sat about twenty buffalo-birds, which act the part of guardian spirits to the animals. When the buffalo is quietly feeding, this bird may be seen hopping on the ground picking up food, or sitting on its back ridding it of the insects with which their skins are sometimes infested... The sight of the bird being much more acute than that of the buffalo, it is soon alarmed by the approach of any danger, and lying up, the buffaloes instantly raise their heads to discover the cause which has led to the sudden flight of their guardian. They sometimes accompany the buffaloes in their flight on the wing; at other times they act as above described.

Another African bird, namely the *Buphaga Africana*, attends the rhinoceros for a similar purpose. It is called "kala" in the language of the Bechuanas; when these people wish to express their dependence upon another they address him as "my rhinoceros," as if they were birds. The satellites of a chief go by the same name...The bird cannot be said to depend entirely on the insects on that animal, for its hard hairless skin is a protection against all except a few spotted ticks; but it seems to be attached to the beast, somewhat as the domestic dog is to man; and while the buffalo is alarmed by the sudden flying up of its sentinel, the rhinoceros, not having keen sight, but an acute ear, is warned by the cry of its associate. The rhinoceros feeds by night, and its sentinel is frequently heard in the morning uttering its well-known call, as it searches for its bulky companion...One species of this bird, observed in Angola, possesses a bill of peculiar scoop or stone forceps form, as if intended only to tear off insects from the skin; and its claws are as sharp as needles, enabling it to hang on to an animal's ear, while performing a useful service within it...This sharpness of the claws allows the bird to cling to the nearly insensible cuticle without irritating the nerves of pain on the true skin, exactly as a burr does to the human hand; but in the cases in question other food is partaken of, for we observed flocks of them roosting on the reeds, in spots where neither tame nor wild animals were to be found.

The most wary animal in a herd is generally the "leader." When it is shot, the others often seem at a loss what to do, and stop in a state of bewilderment. I have seen them then attempt to follow each other, and appear quite confused, no one knowing for half a minute or more where to direct the flight. On one occasion I happened to shoot the leader, a young zebra mare, which at some former time had been bitten on the hind leg by a carnivorous animal, and thereby being made unusually wary, had in consequence become a leader...If they see either one of their own herd or any other animal taking to flight, wild animals invariably flee. The most timid thus naturally leads the rest...The great increase of wariness which is seen to occur when the females bring forth their young, causes all the leaders to be at that time females; and there is a probability that the separation of sexes into distinct herds, which is annually observed in many antelopes, arises from the simple fact that the greater caution of the she-antelopes is partaken of only by the young males, and their more frequent flights now have the effect of leaving the old males behind. I am inclined to believe this, because, though the antelopes, as

the pallahs, &c., are frequently in separate herds, they are never seen in the act of expelling the males... There may be some other reason in the case of the elephants, but the male and female elephants are never seen in one herd. The young males remain with their dams only till they are full grown; and so constantly is their separation maintained, that any one familiar with them, on seeing a picture with the sexes mixed, would immediately conclude that the artist had made it from his imagination, and not from sight.

Livingstone.

THE GIRAFFE.

THESE gigantic and exquisitely beautiful animals adorn the forests of the interior of Southern Africa, but are nowhere to be met with in great numbers. A herd, varying from twelve to sixteen, is composed of giraffes of various sizes, from the young of nine or ten feet in height to the dark chestnut-colored old bull, whose exalted head towers above his companions, generally attaining a height of upwards of eighteen feet.

Some writers have discovered ugliness and a want of grace in the giraffe, but I consider that he is one of the most strikingly beautiful animals in the creation, and when a herd of them is seen scattered through a grove of the picturesque parasol-topped acacias which adorn their native plains, and on whose uppermost shoots they are enabled to browse, he must indeed be slow of conception who fails to discover both grace and dignity in all their movements... There can be no doubt that every animal is seen to the greatest advantage in the haunts which nature designed him to dwell. I have often traced a remarkable resemblance between the animal and the general appearance of the locality in which it is found.

In the case of the giraffe, which is invariably met with among venerable forests, where innumerable blasted and weather-beaten trunks and stems occur, I have repeatedly been in doubt as to their presence, until I had recourse to my glass. On referring instances to my savage attendants, I have known even their practised optics fail,—at one time mistaking dilapidated trunks of trees for cameleopards, and again confounding real cameleopards with these veterans of the forest.

After many mischances, how shall I describe the sensations I experienced as, on a cool November evening, after rapidly following some fresh traces in profound silence, for several miles, I at length counted from the back of my most trusty

steed no fewer than thirty-two giraffes of various sizes, industriously stretching their peacock necks to crop the tiny leaves that fluttered above their heads, in a flowering mimosa grove which beautified the scenery. My heart leapt within me, and my blood coursed like quicksilver through my veins, for, with a firm wooded plain before me, I knew they were mine; but, although they stood within a hundred yards of me, having previously determined to try the *boarding* system, I reserved my fire.

Notwithstanding that I had taken the field expressly to look for giraffes, and had taken four mounted Hottentots in my train, all except one, had, as usual, slipped off unperceived in pursuit of a troop of koodoos...Our stealthy approach was soon opposed by an ill-tempered rhinoceros, which, with her ugly old-fashioned calf, stood directly in the path, and the twinkling of her bright little eyes, accompanied by a restless rolling of the body, giving earnest of her mischievous intentions, I saluted her with a broadside, at the same time putting spurs to my horse ... At the report of the gun, and sudden clattering of the hoofs, away bounded the herd in grotesque confusion, clearing the ground by a succession of frog-like leaps, and leaving me far in their rear. Twice were their towering forms concealed from view by a park of trees, which we entered almost at the same instant, and twice, on emerging from the labyrinth, did I perceive them tilting over an eminence far in advance, their sloping backs reddening in the sunshine, as with giant port they topped the ridges in right gallant style ... A white turban that I wore round my hunting-cap, being dragged off by a projecting bough, was instantly charged and trampled under foot by three rhinoceroses, and long afterwards, looking over my shoulder, I could perceive the ungainly brutes in the rear fagging themselves to overtake me ... In the course of five minutes the fugitives arrived at a small river, the treacherous sands of which receiving their spider-legs, their flight was greatly retarded, and by the time they had floundered to the opposite side and scrambled to the top of the bank, I could perceive that their race was run. Patting the steaming neck of my good steed, I urged him again to his utmost, and instantly found myself by the side of the herd ... The lordly chief being readily distinguishable from the rest by his dark chestnut robe and superior stature, I applied the muzzle of my rifle behind his dappled shoulder with my right hand, and drew both triggers; but he still continued to shuffle along, and being afraid of losing him, should I dismount, among the extensive mimosa groves with which the landscape was now ob-

scured, I sat in my saddle, loading and firing behind the elbow, and then placing myself across his path to obstruct his progress. ... Mute, dignified, and majestic stood the unfortunate victim, occasionally stooping his elastic neck towards his persecutor, the tears trickling from the lashes of his dark humid eye, as broadside after broadside was poured into his brawny front. Presently a convulsive shivering seized his limbs, his coat stood on end, his lofty frame began to totter, and at the seventeenth discharge from the deadly grooved bore, like a falling minaret bowing his graceful head from the skies, his proud form was prostrate in the dust.

While I leisurely contemplated the massive form before me, seeming as though it had been cast in a mould of brass, and wrapped in a hide an inch and a half in thickness, it was no longer matter of astonishment that a bullet discharged from a distance of eighty or ninety yards should have been attended with little effect upon such amazing strength.

We all feasted merrily on the flesh, which, although highly scented with the rank mokaala blossoms, was far from despicable.

Cumming.

THE OSTRICH.

THE ostrich is a native of Africa. It is gregarious; flocks of fifty may be seen on plains peacefully associating with zebras, quaggas, wildebeests, and several other plain frequenting antelopes. The females lay twelve to sixteen eggs each in a nest, which is only a hole scooped out in the ground about six feet wide. Not more than half the eggs are deposited in the nest; the others lie scattered around, and are never hatched.

The shells of the ostrich eggs are very strong, and are used by Bushmen and other natives of the desert as water vessels; the only vessels that some have. A full grown cock ostrich stands over nine feet in height, and weighs three hundred pounds. The legs of such a bird are immensely thick and muscular, and the thigh joint equals in size the largest leg of nutton... It is thought to be the swiftest runner in creation; but there are doubts about this; certain it is that it cannot be overtaken by a horse in a fair chase; but the bird makes 'doubles' in running, and by observing these, the mounted hunter sometimes gets near it by making a cut upon it, and delivers his fire as it passes. To run an ostrich down, however, is considered an impossibility even by an Arab on his fleet steed. Its endurance is equal to its speed, as it can keep up the pace for hours together... The muscular strength of its great

long legs is well adapted for running fast and far; and while on the run its hoofs make a clatter like those of a trotting horse kicking violently large stones to the rear. When at full speed it spreads its white wing plumes, raising them over its back; but this is done only to balance it, as it cannot fly a single yard.

Its principal weapon of defence is the leg with its hoof-like foot. With this it can kick like a mule, and the blow will break a man's leg. But the chief security of the ostrich lies in its splendid powers of vision combined with the kind of place it chooses for abode. It is always on the naked plain, with nothing to interrupt the view; and the high position, combined with the keenness of its eye, enables it to perceive an enemy long before the latter can get near enough to do it an injury. So sharp is its sight, that it can see even further than it can be seen, large as it is!... A most difficult matter it is to get within shooting distance of these wary birds. Sometimes a shot is obtained by lying in wait for them at springs. After drinking they do not run so well; and hunters, taking advantage of this, run them down after leaving the pool.

A Bushman, after securing an ostrich, will sometimes deprive it of its skin and feathery covering in a piece. Then armed with his bow and arrow, he enters it, and thus manages to approach the flock. If skilfully done, they are deceived, believing that the new comer is one of themselves. Silently the poisoned arrow shoots from the false ostrich. They are bewildered at the effects of the unseen enemy, and soon their dead bodies strew the plain.

Mayne Reid.

THE LEMUR.

LEMURS are more quadruped-like in form than monkeys, and characterised by a slight form, an elongated conical head, a very thick fur, and a long but not prehensile tail. The hind legs are long, and the thumbs being well separated from the other fingers, they are tolerably perfect instruments of prehension.

So mild and inoffensive creatures are they, that in Madagascar they are often domesticated, and sometimes employed in the chase.

Mr. Ellis, the missionary, gives the following account of his acquaintanceship with one of the family.

The weather was fine, and the descent from the high central provinces so much easier than the ascent had been, that in the afternoon of the 1st of October, we halted at Alamayaotra. I ~~set~~ off immediately into the forest, in search of plants... Our

wants for the night, fuel and provisions, were liberally supplied by the officers at the station. By seven the following morning we resumed our journey, and soon entered the forest. The morning was bright, the atmosphere clear and bracing ... My attention was soon attracted by a peculiar shouting or hallooing in the forest, apparently at no great distance from the road. It was not like any sound I had heard before, but resembled that of men or boys calling to each other more than anything else... At first I thought it was a number of people driving cattle out of the forest into the road. Still I heard no crashing amongst the underwood, and saw no signs of bullocks. Then I imagined it must be a number of bird-catchers or squirrel-catchers. But on inquiring of my companions, they said the noise proceeded from the black and white lemurs, of which there were great numbers in the forests.

I had repeatedly seen lemurs of more than one species in the market of Tamatave, and numbers among the people of the place. There were two or three of the large ruffed lemur in a house near my own dwelling, and they seemed to be quite domesticated... Though covered with thick, almost woolly, hair, they appeared to be ill at ease in wet or cold weather, but to luxuriate in the warm sunshine. I often noticed two or three of them together, on a fine morning after rain, raised up on their hind legs, on the outside of the house, leaning back against the wall of the house, with their fore legs spread out, evidently enjoying the warmth of the sun which was shining upon them... They are often kept tame by the natives for a long time, and numbers are sold to the masters of vessels and others visiting the port... We had one on board the ship in which I made my first voyage from Madagascar. It was a fine animal, and during the twenty-eight days of our passage, I had frequent opportunities of observing its disposition and habits. It was tied to a boat on the deck; and in a basket under the fore part of the boat it found a partial shelter from the rain and the wind... It conveyed its food, boiled rice and fruit, to its mouth by the hand, it was gentle and sociable, seemingly grateful for any trifling notice or kindness ... I frequently gave it water, which it lapped like a dog, and occasionally a banana; and in a short time it seemed to watch my movements whenever I came on deck, jumping on my arm or shoulder if I approached; but it was most delighted when attaching a long line to the short piece tied round its body I loosened it from the boat and allowed it to run up the cords or rigging, which it ascended with astonishing ease and speed, sitting sometimes with apparent pleasure on the extremity of the yard... It was scrupulously

clean, and seemed unable to endure any tar or other dirt on its shaggy coat... One morning, during a heavy gale of wind when there was much motion in the ship, and great confusion and noise among the sailors, the lemur seemed unusually excited, and repeatedly raised itself up on its hind legs, and clapped its hands together, and chattered loud in a most extraordinary manner, occasioning great uneasiness among our crew of Malagasy sailors, who declared it was an omen of evil to the ship, and that some fearful calamity might be expected... I had felt so much interest in the sociable and apparently gentle animal on board our ship, that I should have been glad to have seen some of its species in their own forest homes, but though numbers were evidently near, none of them came within sight.

Elie.

THE GORILLA.

IN 1847, Professor Owen received a letter from Dr. Savage, a church missionary at Gaboon, a richly-wooded tract in the western part of Africa, enclosing sketches of the cranium of an ape, which he described as much larger than the chimpanzee, ferocious in its habits, and dreaded by the negro natives more than they dread the lion or any other wild beast of the forest.

The gorilla is of the average height of man, five feet six inches; his brain case is low and narrow, and, as the fore part of the skull is high, and there is a very prominent ridge above the eyes, the top of the head is perfectly flat, and the brow, with its thick integument, forms a "scowling pent-house over the eyes."... Couple with this a deep lead-colored skin, much wrinkled, a prominent jaw with the canine teeth (in the males) of huge size, a receding chin, and we have an exaggeration of the lowest and most forbidding type of human physiognomy. The neck is short; the head projects. The relative proportion of the body and limbs are nearer those of man, yet they are of more ungainly aspect than in any other of the brute kind... Long, shapeless arms, thick and muscular, with scarce any diminution of size deserving the name of wrist (for at the smallest they are fourteen inches round, while a strong man's wrist is not above eight); a wide, thick hand: the palm long, and the fingers short, swollen and gouty-looking; capacious chest; broad shoulders; legs also thick and shapeless, destitute of calf, and very muscular, yet short; a hand-like foot with a thumb to it, "of huge dimensions and portentous power of grasp"... No wonder the lion skulks before this monster, and even the elephant is baffled by his malicious cunning, activity,

and strength. The chief reason of his enmity to the elephant appears to be not that it ever intentionally injures him, but merely that it shares his taste for certain favorite fruits. And when, from his watch-tower in the upper branches of a tree, he perceives the elephant helping himself to these delicacies, he steals along the bough, and striking its sensitive proboscis a violent blow with the club with which he is almost always armed, drives off the startled giant, trumpeting shrilly with rage and pain.

Towards the negroes, the gorilla seems to cherish an implacable hatred; he attacks them quite unprovoked. If a party of blacks approach unconsciously within range of a tree haunted by one of those wood-demons — swinging rapidly down to the lower branches, he clutches with his thumbed foot at the nearest of them; his green eyes flash with rage, his hair stands on end, and the skin above the eyes drawn rapidly up and down gives him a fiendish scowl... Sometimes, during their excursions in quest of ivory, in those gloomy forests, the natives will first discover the proximity of a gorilla by the sudden mysterious disappearance of one of their companions. The brute, angling for him with his horrible foot dropped from a tree while his strong arms grasp it firmly, stretches down his huge hind-hand, seizes the hapless wretch by his throat, draws him up into the boughs, and, as soon as his struggles have ceased, drops him down, a strangled corpse.

A tree is the gorilla's sleeping-place by night, his pleasant abode by day, and his castle of defence. If surprised as he waddles along, leaning on his club, instantly he betakes him to all-fours, applying the back part of the bent knuckles of his fore-hands to the ground, and makes his way rapidly, with an oblique, swinging kind of gallop, to the nearest tree. From that coigne of vantage he awaits his foe, should the latter be hardy, or foolhardy, enough, to pursue... No full-grown gorilla has ever been taken alive. A bold negro, the leader of an elephant-hunting expedition, was offered a hundred dollars for a live gorilla. "If you gave me the weight of yonder hill in gold, I could not do it," he said.

Nevertheless, he has his good qualities, in a domestic point of view; he is an amiable and exemplary husband and father, watching over his young family with affectionate solicitude, and exerting in their defence his utmost strength and ferocity. At the close of the rice harvest, the period when the gorillas approach nearest the abodes of man, a family group may sometimes be observed, the parent sitting on a branch, leaning against the trunk, as they munch their fruit, while the

young innocents sport around, leaping and swinging from branch to branch, with hoots or harsh cries of boisterous mirth... The mothers show that devotion to their young in times of danger which is the most universal of instincts. "A French natural history collector" accompanying a party of the Gaboon negroes into the gorilla woods, surprised a female with two young ones on a large bread-fruit-tree which stood some distance from the nearest clump. She descended the tree with her youngest clinging to her neck, and made off rapidly on all fours to the forest, and escaped. The deserted young one on seeing the approach of the men, began to utter piercing cries: the mother having disposed of one infant, returned to the rescue of the other, but before she could descend with it, her retreat was cut off... Seeing one of the negroes level his musket at her, she, clasping her young with one arm, waved the other, as if deprecating the shot. The ball passed through her heart, and she fell with her young one clinging to her. It was a male, and survived the voyage to Havre, where it died on arriving.

The gorilla constructs himself a snug hammock out of the long, tough, slender stems of parasitic plants, and lines it with the broad dried fronds of palms, or with long grass — a sort of bed surely not to be despised, swung in the leafy branches of a tree. By day, he sits on a bough, leaning his back against the trunk, owing to which habit elderly gorillas become rather bald in those regions... Sometimes, when walking without a stick, he clasps his hands across the back of his head, thus instinctively counterbalancing its forward projection. The natives of Gaboon always speak of the gorilla in terms which imply a belief in his close kinship to themselves... But they have a very low opinion of his intelligence. They say that during the rainy season he builds a house without a roof, and that he will come down and warm himself at the fires left by them in their hunting expeditions: but has not the wit to throw on more wood out of the surrounding abundance to keep it burning, "the stupid old man" ... Minie though he be, he cannot even catch the trick of human articulation so well as the parrot or the raven. The negroes aver that he buries his dead by heaping leaves and loose earth over the body.

Wherein does the gorilla differ from the previously known anthropoid, or man-like, tail-less apes? Of these there are three distinct genera: the gibbon, or long-armed ape, the orang-outang, and the chimpanzee. It is a peculiarity of the quadrumanæ (or monkey and ape tribe generally) that the

brain is very precociously developed. Hence, when they are young, with small milk-teeth, fully developed brain, and globular-shaped cranium, they look, comparatively speaking, quite promising characters ... But in the large apes, the orang and the chimpanzee, maturity brings a vast access of physical force, without any corresponding enlargement of the brain, which becomes masked and overlaid by the prominence of the brute attributes ... The jaws expand to receive the great tusk-like teeth ; and then, to work such massive jaws, comes a large addition of fleshy fibres to the muscles, and for these great muscles an increased surface of attachment in the corresponding bones. Hence the physiognomy becomes more brutish, and less human, in maturity ... Hence too the small species of monkeys and apes, in whom this development of physical force does not take place, are far milder and more intelligent-looking than the more highly organised orang and chimpanzee when full grown ; though these latter have absolutely a larger amount of brain, and several other modifications of the bony structure which bring them in reality, as we have said, nearest to man ... The gorilla surpasses the orang and chimpanzee in this peculiarity ; and it is the lowering ferocity of his countenance produced by immense jaws and teeth, the bony prominence over the eyes, and the relative insignificance of the brain, which have induced some naturalists to rank him below the previously known species of chimpanzee.

He has other claims to precedence, besides this cogent one of more brain and a more convoluted brain. The distinctive characteristic of the order, that which gives it the name, *quadrumana*, is, as we all know, the having hands instead of feet — four hands ... And in the comparative anatomist's eyes, the most characteristic peculiarity of man's structure is the great toe ; it is mainly this which enables him to walk erect, which constitutes the great difference between a foot and a hand, and entitles him, sole genus of his order, sole species of his genus, to his zoological appellation *bimana*, or two-handed .. In the gorilla, the thumb of the hind-hand is more like a great toe than it is either in the orang-outang or chimpanzee : it is thicker and stronger. The heel also makes a more decided backward projection, and in the fore-hand, that important member, the thumb, is better developed ... A disproportionate length of arm gives, as we notice in the deformed, a singularly awkward and ungainly aspect to the figure. This is a familiar attribute of all monkey-kind, and one which, in its gradual diminution, marks the gradual rise in the scale of organisation. ... In the gibbons, or long-armed apes, these members have

down to the feet, so that the whole palm can be applied to the ground without the trunk being bent. In the orang, they reach the ankle; in the chimpanzee, below the knee; in the gorilla, a little short of the knee; while in man, below the middle of the thigh.

There are other advances of structure interesting to the anatomist, and all tending to support the gorilla's claims to the topmost place. Now and then we come across a human face in which the bony framework of the eye is almost circular, with a repulsive, cunning, monkey-like look. This, though universal, is one of the ugliest characteristics of the monkey. The gorilla, however, is exempt from this particular detail of ugliness: the bony setting of the eye is squarish, as in most men.

Again and again it strikes the fancy — strikes deeper than the fancy — that the honey-making, architectural bee, low down in the scale of life, with its insignificant head, its little boneless body, and gauzy wing, is our type of industry and skill: while this apex in the pyramid of the brute creation, this near approach to the human form, what can it do? The great hands have no skill but to clutch and strangle: the complex brain is kindled by no divine spark: there, amid the unwholesome luxuriance of a tropical forest, the creature can do nothing but pass its life in fierce, sullen isolation — eat, drink and die.

"All the Year Round."

AUSTRÁLIA: ITS FAUNA AND FLORA.

In no part of the known world do we meet with so peculiar and so remarkable a flora as in Australia. Some trees occur having their leaves twisted out of what appears their natural position; others with leaf stalks performing the office of leaves; others having fruit with the stone placed on the outside; plants belonging to parasitical orders, growing on the ground; whilst, from the very remarkable construction and appearance of a leguminous plant, a Dutch botanist actually mistook it for a fern ... Indeed, so singular and peculiar is the aspect of many of the plants belonging to this region, that the eye of an experienced botanist is required to determine their true botanical character. We meet here with a species of mulberry, of fig, of orange, and of lemon-tree, all these, however, producing small fruit, whilst vines hang from tree to tree, and the lagoons are adorned by a splendid species of blue nelumbium, the seeds of which are eaten by the natives.

Among the plants more particularly characteristic of Aus-

talian scenery are the gum-trees, so called on account of the gummy substance which exudes from the leaves and stems of these trees. The "brown gum-tree" yields the timber called Australian mahogany, and in some parts acquires splendid dimensions. Some of the acacias present very extraordinary forms, being destitute of leaves, or having leaves of the most singular shape... There is the grass-tree, producing a valuable aromatic gum, which is used as a cement, and forms an article of export to Great Britain. The swamp oak is remarkable for its long weeping thread-like branches, and forms the beef-wood of the colonists which they eat. The screw-pine grows only within the influences of the sea breezes, and extends its range to most of the islands of Oceanica, in some of which it forms the staple food of the inhabitants... In addition to the plants above enumerated, there is the native cherry, but which has the stone outside; the singularly formed bottle-tree, the trunk of which bulges out like a barrel. There is also a tree which presents a most curious instance of a plant growing on the ground. It is said to attain the stature of a small orange-tree, and such is the abundance of its flame-coloured blossoms, that the colonists at King George's Sound compare it to a tree on fire, from whence it has obtained the name of the "fire-tree"... There is also the chestnut bean, the fruit or beans of which are contained in long pods, and are larger than the Spanish chestnut, to which, when roasted, they are said to approach in flavor. In some parts of the interior, the natives form a sort of paste or bread of the seed of a species of grass which they gather, and collect in heaps for that purpose.

Among its native animals, Australia possesses a very small number that are of utility to man; this extensive region being apparently entirely destitute of ruminant animals, such as the cow, deer, sheep, &c., and of pachydermatous animals, such as the hog, horse, &c.; whilst four-fifths of its native quadrupeds belong to the order Marsupiata. Among the latter we find the kangaroo, the kangaroo rat, the flying opossum and the bandicoot, all of which are nocturnal.

The marsupial animals are so called because they have a marsupium, or purse, under their stomachs, in which they carry their young till they are able to take care of themselves. The kangaroo, sometimes, when pursued, lets the young ones drop, and they speedily disperse to take care of themselves... The opossums, which are largely eaten by the natives, are about the size of cats. Their heads are like those of rabbits, and their tails are prehensile, like a certain type of monkeys. By these

they hang to the branches of trees, even after they have been shot... The bandicoot is a small animal, not larger than many rats: its hair is bristly, and its head is shaped like a hedgehog's.

"But perhaps the birds," says Howitt, "are the most striking feature of Australia next to the hills and forests themselves. They are numerous, varied, often splendid, and are around you everywhere. Foremost amongst them are the magpie, the leatherhead, and the laughing jackass. The voice of the laughing jackass was familiar to us, from having heard it so frequently in the Zoological Gardens, as we crossed the Regent's Park. But the leatherhead and piping magpie are constant companions; and they are the more amusing the more you see and hear them. They begin with the first peep of dawn, and there is then a perfect jargon of their and other birds' voices.

"There is a species of grey thrush, which has a splendid but unvaried note. It is constantly singing 'Otock-tock-o-tuë' laying a fine stress on the last vowel. Some of them seem to say rather, 'O! O! ochio-chee.' The richness and music of the tone is unrivalled. A score of others have each their own note, and take part in the great concert; but they are the leatherheads and piping magpie that are the chief and constant performers, and it would be difficult to do justice to their varied powers... There is a droll jollity, a spirit of the grotesque, mingled with the merry and the musical in these birds, which I have never perceived in any others. I do not believe they could do anything like it in confinement. Their mirth, oddity, and music seem to be a fountain bubbling up from the soul of liberty and enjoyment of their native woods.

"The piping magpies, or crows, whichever we are to call them, have the richest voices, and sometimes pipe most melodiously; but are sure ere long to break out into wild fantasies of those ringing, Puuch-like tones, mingled with croakings which remind you of their crow affinity... Now, they are piping in a deep musical key, as boys in rich tones whistle some air that they have learned. Then again you have a lot of them chanting, as it were, together in a low key, and with such extraordinary variety of modulations as astonishes you... They seem to be holding little singing-meetings, — family conceris, — in which the subject of their songs must be something very comic. In their louder warblings you have continually recurring the sound of 'Ochio-faliera-po.' You see these magpies, with their clean black and white plumage and plump comfortable-looking bodies, in numbers all over the forest.

"The leatherheads, again, with a very different voice, are

just as various in their performances. At one time they seem to bark like little dogs, at another they shout 'Off we go!' Then they are crying for an hour together, 'Nylgau,' or some such note. About Kilmore, they have a cry most distinct of 'Kilmore,' and must, to a certain degree, be mocking birds; and their chatterings amongst themselves are inimitably ludicrous.

"There is a sort of large, dark-coloured thrush called the wattle-bird, not because it haunts the wattle-trees, but because it has wattles like a domestic fowl. This bird frequents the Banksias, sucking the honey from their flowers, and has a crow and voice very like a pheasant... But it has many other notes. One common cry is 'Yock! yock!' At other times it sits singing for hours in a clear, soft voice, 'Tacamahac.' If you startle it, it cries 'Karackarock,' the name of the native goddess: and at other times, in a harsh voice near you, it seems to say, 'Where's your bacca-box, your box, your box?' And then this cry as rapidly changes into a jovial, rollicking note of 'Gyroc-de-doc, roc-de-doc; cheboc! cheboc!'"

THE DUCK-BILLED WATER-MOLE.

PERHAPS no animal, on its first introduction into Europe, gave rise to greater doubts as to its being a production of nature, or excited deeper interests among naturalists respecting its habits and economy, than this paradoxical creature, which, from its external appearance, as well as internal anatomy, may be correctly described as forming a connecting link between the bird and the quadruped.

The animal, when seen in a living state running along the ground, conveys to the spectator an idea of something supernatural, and its uncouth form produces terror in the minds of the timid: even the canine race stare at them with erect ears, and the feline race avoid them; still, although of such a "questionable shape," it is an animal of perfectly harmless, although restless disposition. Among the colonists in Australia, it is known by the name of "water-mole," from some resemblance it bears to the common European mole.

It was at a tranquil part of the Yarri river, which the colonists call "ponds," on the surface of which numerous aquatic plants grew, that I first beheld these animals. It is in places of this description that the water-moles are most commonly seen, seeking their food among the aquatic plants, whilst the steep and

shaded banks afford them excellent situations for excavating their burrows.

I readily recognised their dark bodies just appearing level with the water, the head slightly raised, by the circles made around them from their paddling motions. It is necessary at this time for the spectator to remain perfectly stationary, as the slightest noise or movement will cause the timid creatures instantly to disappear; and they seldom reappear when frightened, so acute are their sight and hearing... But, if the spectator remain quiet while the animal is paddling about, he will have an excellent view of its movements: it, however, seldom remains longer than one or two minutes, but dives, and reappears a short distance above or below the stream from the place at which it was observed to descend.

When the fur is wet, the animal has a soiled and far from attractive appearance, resembling more a lump of dirty weeds, such as are often seen floating about the rivers than any production of the animal kingdom; it would therefore often escape observation but for its paddling motion in the water: such was its appearance, when lying dead on the surface, or when drifted by the stream against the stump of a tree, or among the reeds and bulrushes growing profusely near and upon the banks of the river.

These animals are seen in the Australian rivers at all seasons of the year, but are most abundant during the spring and summer months; and I think a query may arise whether they do not hibernate. The best time for seeing them is very early in the morning, or late in the evening; during floods and freshes they are frequently perceived travelling up and down the rivers... When going down, they appear to allow themselves to be carried by the force of the stream without making any exertion, but when swimming against the stream, all their muscular power is exerted to the utmost to stem the force of the current.

We availed ourselves of the assistance of a guide in seeking for the burrows. On a steep bank near that part of the Yarri river where I first had the gratification of seeing these animals, and which I have before described as abounding in river weeds, and the banks decorated by overhanging acacias in full bloom, strewing the surface of the water with their golden blossoms shaken off by the wind, our keen-sighted guide pointed out to our uninitiated eyes the tracks of the animals on the moist earth close to the water: these tracks being followed up the bank, at a distance varying from two to five feet, the entrance of the burrows, concealed by the long grass and shrubs which grew profusely and luxuriantly in these situations, was soon

discovered, and the tracks had evidently a very recent appearance... Following the same method he had adopted on similar occasions, the native placed his hand within the burrow, and took from its lower surface pieces of clay, on which impressions of the animals' feet were distinctly marked. From the situation of these burrows, and from being so concealed by shrubs and long grass, I regarded it as next to impossible to explore them.

We traced a burrow for the distance of ten feet four inches, and had just dug a pit down upon it, still seeing it continue its course up the bank, when the well-known beak and head of a water-mole was seen protruding for an instant from the upper part, as if it had been disturbed from its repose, and had, therefore, come down to see what we were about with its habitation... It did not remain an instant, however, appearing not to fancy our captivating appearance. So soon as it beheld us, it thought we could be there making such a noise for no very benevolent purpose, it immediately turned up to take refuge in that part of the burrow not yet explored; but in turning it was seized by the hind leg, and secured as a lawful prisoner of the chase. It proved to be a full-grown female... When I held the unfortunate platypus in my hands, its little bright eyes glistened, and the orifices of the ears were expanded and contracted alternately, as if eager to catch the slightest sound; its little heart palpitating violently with fear and anxiety. After it had been retained in the hands some time it became more reconciled to its situation.

The animal was placed in a cask, with grass, mud, and water, and all that could make it comfortable under existing circumstances. It ran round its place of confinement, scratching and making great efforts to get out; but finding them useless, it became quite tranquil, contracted itself into a small compass, and was soon buried in sleep... At night, however, it was very restless, and made great efforts to escape, going round the cask with its forepaws raised against the sides, the web turned back, scratching violently with the claws of the forefeet, as if to burrow its way out. In the morning, I found the animal fast asleep, the tail being turned inwards, the head and beak under the breast, and the body contracted into a very small compass... When disturbed from its sleep, it uttered a soft growling noise, something like the growl of a young dog, but in a softer and more harmonious key. Although quiet most of the day, its efforts to escape continued with a growling noise during the night... The animal seemed a great curiosity to the Europeans about Yas, who had not before had an opportunity

of seeing one alive. Although they have long been known to be burrowing animals, yet I believe this to be the first burrow explored and the first living animal captured by an European.

The female gives birth to from one to four young ones at a time, the usual number being two. The mother first suckles, but when her offspring are sufficiently old, feeds them with insects mingled with mud, until they are capable of taking to the water and providing for themselves.

It is very ludicrous to see these uncouth animals open their mandible-like lips and yawn, stretching out the fore-paws, and extending the web of their fore-feet to their utmost expansion. Although this was natural, yet, not being in the habit of seeing a duck yawn, it had the semblance of being perfectly unnatural... It often surprised me how they contrived to reach the summit of a book-case, or any other elevated piece of furniture. This, at last, was discovered to be effected by the animal supporting the back against the wall, and placing the feet against the book-case, and then, by aid of the strong cutaneous muscles of the back, and the claws of the feet, they contrived to reach the top very expeditiously. They perform this mode of climbing often, so that I had many opportunities of witnessing the manner in which it was done.

When running, they are exceedingly animated; their little eyes glisten, and the orifices of the ears contract and dilate so as to catch the slightest sound; they struggle very much to escape, if taken up at this time for examination. Their eyes being placed so much above the head, they do not see objects well in a straight line, and consequently run against everything in the room, and spread "dire confusion" among all the light and easily overturnable articles. I have seen them now and then elevate the head, as if to regard the objects round or above them; but they more usually run head-foremost, without looking on one side or the other... Sometimes I have been able to play with them by scratching and tickling them with my finger; they seemed to enjoy it, for they opened their mandibles, biting playfully at the finger, and moving about in the same manner as we see a young dog enjoy similar treatment.

As well as combing their fur to clean it, when wet, I have also seen them often peck it with the beak, as a duck would clean its feathers. What with this, and the combing of the hind feet, it is a curious sight to view them engaged in the occupation of the toilette... When I placed the animals in a pan of deep water, they were eager to get out; but, when the water was shallow, with a turf of grass placed in one corner, they enjoyed it exceedingly; they would sport together, attacking one another

with their mandibles, and rise one against the other with their fore feet, as if in mock combat, and roll over in the water in the midst of their gambols. It was most ludicrous to observe the uncouth looking little beasts running about, overturning and seizing one another with their mandibles in "sportive gaiety;" and then, in the midst of their fun and frolic, coolly incline to one side, and scratch themselves in the gentlest manner imaginable. After the cleaning operation was concluded, they would perambulate the room for a short time, and then seek repose.

KANGAROO AND OPOSSUM HUNTING.

PERHAPS there is no object in wild life to be seen more interesting than an Austral aborigine in search of his game. With all his natural instincts awakened, his appetites sharpened by want, and his self-esteem excited by the desire to excel, let us endeavor to reproduce him as we saw him hunting the kangaroo.

He was a young man, perhaps from twenty to twenty-five, more slender than athletic, and the muscles of his limbs as hard as India-rubber. Pipe-clay and red ochre, or burnt clay, fulfilled all the ornamental purposes deemed requisite for the adornment of his person. Round his middle was wound in several folds a girdle of opossum-fur, of about an inch in thickness, into which were inserted his boomerang, tomahawk, and a short, heavy stick, to throw at any smaller animals which he might see perched upon the branches of the trees ... In his hands were his throwing-stick, and several spears, pointed in two or three different ways, so as to be suitable either for the purposes of war, for hunting, or fishing. Over his shoulders was a kangaroo-skin cloak when he first started, but this was shortly afterwards doffed as an encumbrance.

He moved with a quick, noiseless, and stealthy pace, glancing from side to side in an uneasy manner, as if his own life was encompassed with danger, rather than as if he wished to compass the life of another. Nothing escaped his sight. What he did was done mostly by the movement of his eyes, his head being held erect, whilst he proceeded with the same uncertain and stealthy pace.

At length his step is arrested. He stands as immovable as a statue, and scarcely distinguishable from the charred stumps of the trees by which he is surrounded. His eyes roll from side to side, the whites of them being recognised, at a considerable distance, in a state of rapid motion. Meanwhile, the

animal is standing erect upon its hind-legs, and looking watchfully around in case of any alarm ; but, being reassured, it drops upon its fore-paws, makes a leap or two, and quietly commences feeding again ... All this while, the aborigine has stood as if he had been transfixed to the earth, nor does he move until the object of his chase has twice or thrice listened again, and finally abandoned itself to its provender in the perfect confidence of security. It is now the hunter's turn again ; and, without moving his body, he manages to fix his spear in his wommora, and raises his arms in the position of throwing, from which he never takes them until the kangaroo dies or takes to flight.

All now being in readiness, he watches his opportunity to steal slowly upon his prey, no other parts of his body moving but his legs. The kangaroo, however, is again alarmed, and rises to look round. Behold the savage again, fixed in his position, as motionless as a stone ! There he stands, no matter how long, until the animal is again assured of its safety, and once more commences to nibble the herbage ... Again the wary native advances, and so on for several times, until his spear penetrates the devoted beast, when the woods reverberate the shouts of the women and children, who all join pell-mell in the destruction of the animal. This being accomplished, it is carried to some convenient resting-place, where it is cut up and enjoyed with a relish worthy of the patience, skill, and dexterity displayed in its capture and death.

The kangaroos make no use of their short fore-legs, except in grazing, when they rise upon them and their tail, bring their hind-legs forward, and go nibbling upon all-fours ; pulling up occasionally some favorite plant with their fore-paw, and sitting up bold and erect upon their hind-houghs and tail, while they slowly bite and nibble it, shifting it from paw to paw like a boy protracting his repast on a juicy apple ... When chased, they hop upon their hind-legs, bounding onwards at a most amazing rate, the tail wagging up and down as they leap, and serving them for a balance. They will bound over gulleys and down declivities the distance of thirty yards, and fly right over the tops of low brush-wood, so that in such places dogs stand very little chance with them, but in a clear, open country the former soon tire them out... The dogs seize them generally by the hip, and throw them over ; then fasten upon their throats, and despatch them. But few dogs will attack a large kangaroo singly, some of the two-hundred weight size often hopping off with three or four assailants hanging about them ; and we hear of one that actually carried a man to some distance. When a

dog gets up close to a large kangaroo, it will often sit up on its tail and haunches, and fight the dog, turning adroitly round and round, so as always to face him, and pushing him off with the fore-paws; or it will seize and hug him like a bear, ripping him up with the long, sharp claw on its powerful hind-leg ... They are constantly, indeed, cutting, and often killing dogs with this terrible weapon, which will tear out the bowels at a single kick; and a large kangaroo is on this account very dangerous even for a man to approach, when set at bay. The white kangaroo hunters immediately hamstring them when thrown, to prevent injury to themselves or the dogs; while the natives give them a heavy blow over their loins with their *waddie* (a kind of club), which completely paralyses their hind-legs.

The kangaroo being now much more rare than it used to be, the natives are driven to a greater dependence upon other animals for their subsistence. Amongst these, the opossum takes the most prominent place. This animal is followed either by day, or during a moonlight night, when the sport is wonderfully enjoyed ... The marks by which a native discerns the ascent of an opossum up a tree are too faint for the optics of the white man; but to him they at once appear, and determine his proceedings. When he approaches some massive stem which looks likely to be the haunt of the opossum, he throws his arms behind his back, and carefully scrutinises the bark. He sees something which arrests his eye upon a single spot; then, looking up the line of tree, he discovers the marks made by the nails of the animal in its ascent... But this is not all. He has yet to determine whether these footmarks be new or old; and this is done by selecting one which has left a little sand behind it. This is examined, and gently blown upon, when, if the particles are too damp to fly away, he concludes that the animal has recently ascended the tree, and is still there secreted... Out, then, comes his tomahawk, with which he notches the bark about four feet from the ground, in order that he may insert his great toe and take his first step in his ascent. Into this goes the toe of his right foot, when, throwing his dexter arm round the tree, he with his left hand fixes the point-handle of his hatchet into the bark as high as he can reach, and thus gets a stay by which he drags himself up... Having made this step good, he cuts another for his left foot, and thus proceeds alternately right and left, until he gains the hole where the opossum is hid; which being speared out, or smoked out, the native dexterously catches him by the tail, and dashes him against the tree or the ground with such force as to finish its existence.

Boys' Magazine.

SOUTH-SEA WHALE FISHERY.

THIRTY days out from Hobart Town, our vessel floated under an unbroken arch of pure blue sky, clear and translucent. On the distant horizon rested the light trade-wind clouds reflecting all the splendor of the rising sun. The quiet dreamy beauty of the scene was indescribable—so I am saved the trouble of describing it... The helmsman felt it, and leaned sleepily against the wheel. The officer of the watch shut his eyes to it, and nodded on the sky-light. I was resting with head and arms on the bulwarks, when from the topmast crosstrees a clear voice rang out, "There she spouts! Black-skin a-head! There, there she blows again!" "Where away?" shouted the mate.—"Three points on the weather bow. Hurrah! There she breaches clean out! Single spouts—a school of sperms!"... The quiet people of the ship were wakened up as though they had all suddenly been galvanised, and jumped about with a delirious activity. The captain rushed up half-dressed from his cabin, with one side of his face elaborately lathered, and a little rivulet of blood trickling from the other. The men blocked up the fore scuttle, and tumbled over each other in their eagerness to reach the deck. Then followed rapid orders, rapidly executed... The ship, which had been slipping along under double-reefed topsail, foresail, and mizen, was easily hove to. "Haul up the foresail! Back the main-yard! Pass the tare into the boats. Bear a hand, and jump in! See the tackle falls clear. Ready?"—"Ay, ay, sir; all ready!"—"Lower away!"... The falls whizzed through the davit heads; the men, already seated at their oars, struck out the instant the boats touched the water. Among the men who struck out I was one, and I was then about for the first time to commit assault and battery against the monarch of the sea, and help, if possible, to part leviathan among the merchants.

South Sea whalers may be distinguished at sea by their boats; they usually carry five, sometimes seven, hung over the side by tackles attached to wooden or iron cranes, called davits, the bow of each boat hanging from one davit, and the stern from another. The tackle falls are carefully coiled upon the davits, so that they can be let go with a certainty of running clear; and to the bottom of the tackle blocks is attached a weight which instantly unhooks them when the boat touches the water... The boats are of peculiar shape; made low, and of great beam amid-ships, they gradually taper towards each end. Head and stern are alike, both sharp as a wedge, and raised by a gentle curve which traverses the whole length of the boat.

The whale boats, being made in this way, are nearly flat-bottomed in the middle, and have little hold of the water. Their light build, sharp stems, and rounded sides, give them great swiftness; and their width and low centre of gravity cause them to be, when properly managed, very safe... They are steered by a long and heavy oar, which passes through a rope strap attached to the stern-post. The long leverage gives to the steersman great power over his boat, and enables him to alter her direction, or to turn her round in far less time than if he used the common rudder. In the stern of the boat is fixed a strong, round piece of timber called the logger-head, to which the towing rope is affixed, and which also serves to check the line when fast to a whale... The head-sheets are covered in by a strong board having a deep circular cut on its inner edge, used by the harpooner as a support when in the act of striking. The harpoon, or "iron" as we whalers call it — I say we whalers on the strength of my first cruise—is made of the very best wrought iron, so tough that it will twist into any shape without breaking. It is about three and a half feet in length, with a keen, flat, barbed point at one end, and at the other a socket, in which is inserted the point of a heavy pole or staff... The whale-line is firmly fastened to the iron itself, and then connected with the staff in such a manner that, when the blow is struck and the line tightens, the staff comes out of the socket, leaving only the iron in the whale. If this plan were not adopted, the heavy pole, by its own weight and its resistance to the water, would tear out the iron, and so we should lose the fish... When in chase, the harpoon lies on the boat's head with its point over the stem ready for immediate use. Two harpoons are frequently fastened to the same line. Beneath the gunwale in the bows are several brackets, containing a hatchet, knives, and a couple of lances. The whaler's lance resembles, in some measure, the harpoon—but instead of barbs, it has a fine steel blade, and is only attached to a short hand-line. Leather sheaths are provided for all instruments when not in use.

In the stern, or sometimes in the middle of each whale boat, is a tub. In this the line is coiled with the greatest care, as the least hitch, when it is running out, would probably turn the whole boat's crew into the water. The line, which though small is of great strength, passes along the whole length of the boat, between the rowers, and runs on a roller fixed into the stem... The rollocks, in which the oars work, are muffled with rope matting. Every oar is fastened to the boat with a strong lanyard (a piece of small line), so that, when in tow

a whale, it can be tossed overboard, hanging by the lanyard, and leave all clear for the line to run out. Some boats are fitted with iron rollocks that move on a swivel; by these the oars can be brought parallel to the boat's length, and yet remain shipped ready for use.

Another boat lowered soon after we left the ship and pulled in our wake; she followed as a "pick up boat" in case of accident. The ship, which had still a boat's crew and the idlers aboard, with yards braced sharp up, and the leech of the top-gallant sail touching, was laying a course nearly parallel to our own. The chief mate "headed" the boat in which I rowed, and we had with us the best boat-steerer in the ship. Both were anxious to be first "fast" to the first whale of the season... Our tough ash oars of eighteen feet length bent and buckled with the strain. The boat sprang from each vigorous stroke, and hummed through the water as a bullet through the air. The headsman standing in the stern, with the peg of the steer-oar grasped in his left hand, stamped and raved with excitement, throwing his body forward in sympathy with each stroke, and with the right hand "backing up" the after oar with all his strength... At the same time, he was encouraging and urging us to fresh exertions, making the most absurd promises in case of success, and threatening the boat-steerer with all sorts of awful consequences if he missed the whale. By this time we were in sight of the school, and, turning my head, I could distinguish several of the low bushy spouts of the sperm whale, and catch an occasional glimpse of a huge black mass rolling in the water. But there was no time for contemplation. Another boat was creeping up to us, and we were yet some distance from the game.

The headsman grew more frantic. "Give way, my sons! Lift her to it! Long strokes! Pile it on, my hearties! Well done, Derwenters! I've three pretty sisters you shall pick from. There she blows again! Twenty minutes more, and it's our whale." Suddenly his face changed. "Turned flukes!" said he. The whales had disappeared, and with peaked oars we lay motionless on the water waiting their return to the surface... In a few minutes, a short gush of steam and spray broke midway between the two boats. Half-a-dozen long strokes. "Steady, my lads, softly, so ho! Stand up!" and the boat-steerer, peaking his oar, took his place in the bows. "Into her! Starn all!" shouted the headsman. Both irons were buried in the whale, which lay for an instant perfectly still, whilst we backed hastily. Then the great black flukes rose

the air, and the whale "sounded" or dived, the line run out of the tub, round the loggerhead at the stern and out ahead, with wonderful velocity. The wood smoked and with the friction, and the boat's head sank under the e.

than half the line was carried out before it slackened, the moment that it did so, we began to haul in again l away in the tub. But the "struck fish" quickly ap- the momentum acquired in rising carrying him nearly ut of the water. He was evidently "gallied" (fright-making short darts in different directions; but, as the proached, he started off, "eyes out," at full speed... The s now checked by a turn round the loggerhead, and only l to surge out gradually. The boat's velocity became

We were carried through the water at the rate of twenty miles an hour. Our little craft swept on in a rough; a huge wave of foam rolling a-head of us, and en walls rising above the gunwale, threatening every t to descend upon the boat, already half filled by the g spray. But the huge animal to which our boat was ed soon tired of this labor, the line again slackened, monster lay on the surface writhing in agony, snapping rmous jaws, and furiously lashing with his tail... As we way the line, and as the distance between us and our creased, I will candidly own that I was as "gallied" as ale itself, and would have given my own share of him to een absent from the scene. Habit accustoms a man whaling; but few men, when "fast," for the first time, ogether easy. Our headsman stood coolly in the bows, n hand, exclaiming—"Haul me up, and he's a dead

A hundred barreller! Lay me on, lads!" And with t's nose nearly touching, he plunged a lance repeatedly side. "Starn all!" The whale started ahead, but the eapon had reached "the life," and, spouting thick jets i, he fell into the "flurry" ... That was a tremendous le. The enormous animal, convulsed in the agonies of rapidly circling in the midst of a dizzy whirl of blood m, striking alternately with head and tail, vast sheets r flying from beneath the mighty blows, which roared cks of thunder. At the same time, beyond the vortex, ht boat danced as in triumph at her victory; and yet ht frame trembled and vibrated with each stroke, as she shuddered at the havoc she had caused.

short time the struggling ceased: the whale turned over. We had then leisure to look about us. The two

other boats were both fast to one fish, and nearly out of sight to windward. The fourth boat had struck a whale, but lost him, from the irons having drawn, and she was now making towards us. Uniting our strength we took the prize in tow, and turned our course towards the ship, eight or nine miles distant... She was making a long stretch in the direction of the fast boats. It was afternoon when, with no better dinner than dry biscuit and water, and under a burning sun, we fastened our tow line, and commenced the weary drag—the hardest, but the most welcome part of a whaler's labor. With scorched faces and blistered hands, we pulled steadily on, lightening our toil with many a chorus, making rough calculations of the value of our prize, and at nightfall reached the ship, and lashed the whale firmly alongside by strong chains and hawsers.

Household Words.

History.



INVESTIGATION

FOR THE PAXMAN T. THE "W" PAXMAN
W. H. Paxman & Son

AN EASY-READ HISTORY

RE is a difference between ancient and modern which justifies the limit usually assigned to the body of the western empire: that is to say, an empire separating the subsequent period should be divided by a frontier line, so far as it can be found at any other point of the same date of things now in existence than the body of the western empire: so far as the nations which are still in the body of the living.

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Christendom. Aspicioius among to ravage Western f both coasts of the carried far into the victorious under one of the feeble the fertile pro-

no new one... By the great elements of nationality, I mean *race, language, institutions, and religion*: and throughout Europe all these four may be traced up, if not actually in every case to the fall of the western empire, at least to the dark period which followed that fall; while in no case are all the four to be found united before it. Otherwise, if we allow the two first of these elements, without the third and fourth, to constitute national identity, especially when combined with sameness of place, we must then say that the northern countries of Europe have no ancient history, inasmuch as they have been inhabited from the earliest times by the same race, speaking what is radically the same language... But it is better not to admit national identity till the two elements of institutions and religion, or at any rate one of them, be added to those of blood and language. At all events it cannot be doubted that, as soon as the four are united, the national personality becomes complete.

Dr. Arnold.

STRUGGLES FOR THE POSSESSION OF ENGLAND.

NOTHING in the early existence of Britain indicated the greatness which she was destined to attain. Her inhabitants, when first they became known to the Tyrian mariners, were little superior to the natives of the Sandwich Islands. She was subjugated by the Roman arms, but she received only a faint tincture of Roman arts and letters. Of the western provinces which obeyed the Caesars, she was the last that was conquered, and the first that was flung away.

After a protracted period of obscure and doubtful vicissitudes and struggles, the country, after having been lost to view as the land of the Britons, reappears as England. The conversion of the Saxon invaders to Christianity was the first of a long series of salutary revolutions.

Into the ecclesiastic federation our Saxon ancestors were admitted. A regular communication was opened between our shores and that part of Europe in which the traces of ancient power and policy were yet discernible. The dome of Agrippa still glittering with bronze, the mausoleum of Adrian not yet deprived of its columns and statues, the Flavian amphitheatre not yet degraded into a quarry, told to the rude Anglo-Saxon pilgrims some part of the story of that great civilised world which had passed away. The islanders returned with awe deeply impressed on their half-opened minds, and told the wondering inhabitants of the hovels of London and York, that near the grave of St. Peter,

mighty race, now extinct, had piled up buildings which would never be dissolved till the judgment day... Learning followed in the train of Christianity. The poetry and eloquence of the Augustan age were assiduously studied in Mercian and Northumbrian monasteries. The names of Bede and others were justly celebrated throughout Europe... Such was the state of our country when, in the ninth century, began the last great descent of the northern barbarians.

During several generations Scandinavia continued to pour forth innumerable pirates, distinguished by strength, by valor, by merciless ferocity, and by hatred of the Christian name. No country suffered so much from these invaders as England. Her coast lay near to the ports whence they sailed, nor was any part of our island so far distant from the sea as to be secure from attack... The same atrocities which had attended the victory of the Saxon over the Celt were now, after the lapse of ages, suffered by the Saxon at the hand of the Dane. Civilisation, just as it began to rise, was met by this blow, and sank down once more... Large colonies of adventurers from the Baltic established themselves on the eastern shores, spread gradually westward, and, supported by constant reinforcements from beyond the sea, aspired to the dominion of the whole realm. The struggle between the two fierce Teutonic breeds lasted during six generations. Each was alternately paramount. Cruel massacres followed by cruel retribution, provinces wasted, convents plundered, and cities rased to the ground, make up the greater part of the history of those evil days... At length the North ceased to send forth a constant stream of fresh depredators, and from that time the mutual aversion of the races began to subside. Intermarriage became frequent. The Danes learned the religion of the Saxons, and thus one cause of deadly animosity was removed. The Danish and Saxon tongues, both dialects of one wide-spread language, were blended together. But the distinction between the two nations was by no means effaced, when an event took place which prostrated both in common slavery and degradation, at the feet of a third people.

The Normans were then the foremost race of Christendom. Their valor and ferocity had made them conspicuous among the rovers whom Scandinavia had sent forth to ravage Western Europe. Their sails were long the terror of both coasts of the channel. Their arms were repeatedly carried far into the heart of the Carlovingian empire, and were victorious under the walls of Maestricht and Paris... At length one of the feeble heirs of Charlemagne ceded to the strangers the fertile pro-

vince of Normandy, watered by a noble river, and contiguous to the sea, which was their favorite element. In that province they founded a mighty state, which gradually extended its influence over the neighbouring principalities of Brittany and Maine... Without laying aside that dauntless valor which had been the terror of every land from the Elbe to the Pyrenees, the Normans rapidly acquired all, and more than all, the language, knowledge, and refinement which they found in the country where they settled.

The polite luxury of the Norman presented a striking contrast to the coarse voracity and drunkenness of his Saxon and Danish neighbours. He loved to display his magnificence, not in huge piles of food and hogsheads of strong drink, but in large and stately edifices, rich armor, gallant horses, choice falcons, well-ordered tournaments, banquets, delicate rather than abundant, and wines remarkable rather for their exquisite flavor than for their intoxicating power... That chivalrous spirit, which has exercised so powerful an influence on the politics, morals, and manners of all the European nations, was found in the highest exaltation among the Norman nobles.

The vicinity of so remarkable a people early began to produce an effect on Anglo-Saxon England. Before the conquest, English princes received their education in Normandy. English sees and English estates were bestowed on Normans. The French of Normandy was familiarly spoken in the palace of the English kings. The court of Rouen seems to have been to the court of Edward the Confessor, what the court of Versailles long afterwards was to the court of Charles II.

The battle of Hastings, and the events which followed it, not only placed a Duke of Normandy on the English throne, but gave up the whole population of England to the tyranny of the Norman race... The subjugation of a nation by a nation has seldom, even in Asia, been more complete. The country was portioned out among the captains of the invaders. Strong military institutions, closely connected with the institution of property, enabled the foreign conquerors to oppress the children of the soil. A cruel penal code, cruelly enforced, guarded the privileges, and even the sports of the alien tyrants.

England, which, since the battle of Hastings, had been ruled generally by wise statesmen, always by brave soldiers, fell at length under the dominion of a trifler and a coward. From that moment her prospects brightened. John was driven from Normandy. The Norman nobles were compelled to make their election between the island and the Continent. Shut up by the sea with the people whom they had hitherto oppressed and de-

spised, they gradually came to regard England as their country, and the English as their countrymen... The two nations so long hostile, soon found that they had common interests and common enemies. Both were alike aggrieved by the tyranny of a bad king. Both were alike indignant at the favor shown by the court to the natives of Poitou and Aquitaine... The great grandsons of those who had fought under William, and the great grandsons of those who had fought under Harold, began to draw near to each other in friendship ; and the first pledge of their reconciliation was the Great Charter, won by their united exertions, and framed for their common benefit.

Macaulay.

ANGLO-SAXON INDUSTRY.

WHEN the Anglo-Saxons invaded England, they came into a country which had been under the Roman power for about four hundred years, and where agriculture, especially after the energetic rule of Agricola, had been so much encouraged, that it had become one of the western granaries of the empire... The Britons, therefore, of the fifth century may be considered to have pursued the best system of husbandry then in use, and their lands to have been extensively cultivated with all those exterior circumstances which mark established proprietorship and improvement : as small farms, enclosed fields, regular divisions into meadow, arable, pasture, and wood ; fixed boundaries ; planted hedges ; artificial dykes and ditches ; selected spots for vineyards, gardens, and orchards ; connecting roads and paths ; scattered villages and larger towns ; with appropriate names for every spot and object that marked the limits of each property, or the course of each way... All these appear in the earliest Saxon charters, and before the combating invaders had time or ability to make them, if they had not found them in the island. Into such a country the Anglo-Saxon adventurers came, and by these facilities for rural civilisation soon became an agricultural people... The natives, whom they despised, conquered and enslaved, became their educators and servants in the new arts, which they had to learn, of grazing and tillage ; and the previous cultivation practised by the Romanised Britons will best account for the numerous divisions, and accurate and precise descriptions of land which occur in almost all the Saxon charters.

The great season of abstinence from flesh, and the regular recurrence through the year of days of fasting, rendered a pro-

vision for the supply of fish to the population a matter of deep concern to their ecclesiastical instructors. In the times when the Pagan Saxons were newly converted to Christianity, the missionaries were the great civilisers, and taught the people how to avail themselves of the abundant supply of food which the sea offered to the skilful and the enterprising. Bede tells us that Wilfred so taught the people of Sussex... "The bishop, when he came into the province, and found so great misery of famine, taught them to get their food by fishing. Their sea and rivers abounded in fish, and yet the people had no skill to take them, except only eels. The bishop's men having gathered eel-nets everywhere, cast them into the sea, and by the help of God took 300 fishes of several sorts, the which being divided into three parts, they gave a hundred to the poor, a hundred to those of whom they had the nets, and kept a hundred for their own use" ... The Anglo-Saxons had oxen and sheep; but their chief reliance for flesh meat, especially through the winter season, was upon the swine, which, although private property, fed by thousands in the vast woods with which the country abounded. Our word *bacon* is "from the beechen-tree, anciently called *bucon*, and whereas swine's flesh is now called by the name of bacon; it was given only at the first unto such as were fatted with bucon or beech-mast." As abundant as the swine, were the eels that flourished in their ponds and ditches. The consumption of this species of fish appears from many incidental circumstances to have been very great. Rents were paid in eels, boundaries of lands were defined by eel-dykes, and the monasteries required a regular supply of eels from their tenants and dependents.

Three centuries after Wilfred had taught the people of Sussex to obtain something more from the waters than the rank eels in their mud-ponds, the produce of the country's fishery had become an article of regular exchange. The citizens bought of the fisherman as much fish as he could sell; the fisherman obtained big loaves and clothing from the citizens. The enterprise which belongs to the national character did not rest satisfied with the herring and salmon of the sea. Though the little fisherman crept along the shore, there were others who went with many ships to hunt whales. We cannot have a more decisive indication of the general improvement which had followed in the wake of Christianity, even during a period of constant warfare with predatory invaders.

The garments of the Anglo-Saxons, both male and female, were linen as well as woollen, but we can easily judge that in a country whose population was surrounded by vast forests and

dreary marshes, wool, the warmer material for clothing, would be of the first importance. The fleece which the shepherd brought home in the pleasant summer season, was duly spun throughout the winter by the females of every family, whatever might be their rank... King Edward the elder commanded that his daughters should be instructed in the use of the distaff. Alfred, in his will, called the female part of his family the spindle side. At this day, true to their ancient usefulness (the form of which, we hope not the substance, has passed away), unmarried ladies are called spinsters. But the Anglo-Saxon ladies attained a high degree of skill in the ornamental work belonging to clothing. The Norman historians record their excellence with the needle, and their skill in embroidery.

“August they call Arn-monat, more rightly Barn-monat, or Barn-month, intending thereby the then filling of their barns with corn.” The arable portion of an estate was probably comparatively small. The population of the towns was supplied with corn from the lands in their immediate vicinity... There was no general system of exchange prevailing throughout the country. In the small farms enough corn was grown for domestic use; and when it failed, as it often did, before the succeeding harvest, the colewort and the green pulse were the welcome substitutes... Wheaten bread was not in universal use. The young monks of the abbey of St. Edmund ate the cheaper barley bread. The baker, in Alfric’s colloquy, answers to the question of “What use is your art? we can live long without you:” “You may live through some space without my art, but not long nor so well; for without my craft every table would seem empty, and without bread all meat would become nauseous. I strengthen the heart of man, and little ones could not do without me”... In a picture representing a dinner party, some food is placed on the table; but the kneeling servants offer the roasted meat on spits, from which the guests cut slices into their trenchers. We smile at these primitive manners, but they were a refinement upon those of the heroes of Homer, who were their own cooks.

C. Knight.

THE DEATH OF THE CONQUEROR.

At the end of the year 1086, when he had been seated nineteen years upon the throne of England, William went over to the Continent with a mighty army to wage war with Philip, king of France, for the possession of the city of Mantes and the

country of the Vexin...The corn was almost ready for the sickle, the grapes for the wine-press, when he marched his cavalry through the corn-fields and made his soldiery tear up the vines by the roots, and cut down the pleasant trees. Mantes was soon taken, and consigned to the flames...Neither house nor cottage, —nay, neither church nor monastery was spared. As the conqueror rode up to view the ruin he had caused, his war-horse put his fore-feet on some embers, or hot cinders, and then swerved or plunged so violently that the heavy rider was thrown upon the high pommel of the saddle, and grievously bruised. The king dismounted in great pain, and never more put foot in stirrup. Forthwith quitting the burning town, he was carried slowly in a litter to Rouen, and again laid in his bed...It was soon evident to all, and even to himself, that his last hour was approaching. Being troubled by the noise and bustle of Rouen, and desirous of dying in a holy place, he made his people carry him to the monastery of St. Gervas, outside the city walls. He lingered for six weeks, during which he was surrounded by doctors, priests, and monks...On the nearer approach of death his heart softened; and though he preserved the kingly decorum, and conversed calmly on the wonderful events of his life, he is said to have felt the vanity of all human grandeur, and a keen remorse for the crimes and cruelties he had committed. He sent money to Mantes to rebuild the churches and houses of religion he had burned, and he ordered large sums to be paid to the churches and monasteries in England which he had plundered and impoverished. He released all his state prisoners, as well Saxons as others, some of whom had pined in dungeons for more than twenty years... Robert, his eldest son, who had had many violent quarrels with his father, was absent, but his two younger sons, William and Henry, who were successively kings of England, were assiduous round the death-bed, waiting impatiently for the declaration of his last will...A day or two before his death, the conqueror assembled some of his prelates and chief barons in his sick chamber, and raising himself in his bed, he with a solemn and ghastly countenance declared in their presence that he bequeathed the duchy of Normandy and its other dependencies to his eldest son Robert...“As to the crown of England,” said the dying monarch, “I bequeath it to no one, as I did not receive it, like the duchy of Normandy, in inheritance from my father, but acquired it by conquest and the shedding of blood with mine own good sword. The succession to that kingdom I therefore leave to the decision of God, only desiring most fervently that my son William, who hath ever been dutiful to

me, may obtain it, and prosper in it,"..."And what do you give unto me, oh! my father?" eagerly cried Prince Henry. "Five thousand pounds weight of silver out of my treasury." "But what can I do with five thousand pounds of silver if I have neither lands nor a home?" Here the dying king put on the look of a prophet, and said, "Be patient, O Henry! and have trust in the Lord. Suffer thy elder brothers to precede, and thy time will come after theirs" ...Henry the Beauclerc, and the craftiest and cleverest of the unloving brotherhood, went straight and drew the silver, which he weighed with great care, and then furnished himself with a strong coffer to keep his treasure in. William Rufus left the king's bedside at the same time, and, without waiting to see his father breathe his last, hastened over to England to seize the royal treasures deposited in Winchester Castle, and to look after his crown.

About sunrise, on the 9th of September, the conqueror was roused from a stupor into which he had fallen by the sound of bells. He eagerly inquired what the noise meant, and was told that they were ringing the hour of prime in the church of St. Mary. - He lifted his clasped hands to heaven, and saying, 'I recommend my soul to my Lady Mary, the holy mother of God,' instantly expired...His last faint sigh was the signal for general flight and scramble. The knights, priests, and doctors, who had passed the night near him, put on their spurs, mounted their horses, and galloped off to their several homes to have an eye to their own interests... The king's servants and some vassals of inferior rank proceeded to rifle the apartments of the arms, silver vessels, linen and royal dresses, and then mounted and rode away like their betters. Some took one thing, some another; nothing worth the carrying was left behind—no, not so much as the bed-clothes...For about three hours, the corpse of the mighty conqueror, abandoned by sons, friends, servants and all, lay in a state of almost perfect nakedness on the bare boards of the chamber in which he had expired. The citizens of Rouen either ran about the streets asking news and advice from every one they met, or busied themselves in concealing their money and valuables...At last the clergy and the monks recovered the use of their faculties, and thought of the decent duties owing to the mortal remains of their sovereign; and arraying themselves in their best habits, and forming in order of procession, they went with crucifix, burning tapers, and incense, to pray over the abandoned and dishonored body for the peace of the soul...The Archbishop of Rouen ordained that the king should be interred at Caen, in

the church of St. Stephen, which he had built and royally endowed. But even now there was no one to do the last honors: his sons, his brothers, his relations, were all absent, and of all the conqueror's officers and rich vassals, not one was found to take charge of the obsequies... At length a poor knight, named Herluin, who lived in the neighbourhood, charged himself with the trouble and expense of the funeral "out of his natural good-nature and love of God." This poor and pious knight engaged the proper attendance and a wain; he conveyed the king's body on the cart to the banks of the Seine, and thence to the city of Caen.

Penny Magazine.

OPPRESSION UNDER RUFUS AND STEPHEN.

BOTH the Conqueror and his son Henry have the character of having been strict administrators of the laws, and rigorously exact and severe in the punishment of offences against the public peace. The Saxon chronicler says that, in the time of the former, a girl loaded with gold might have passed safely through all parts of the kingdom. In like manner the same authority tells us that, under the government of Henry, "whose bore his burden of gold and silver, durst no man say to him nought but good" ... The maintenance of so effective a system of police must, no doubt, have made a great difference between these reigns and those of Rufus and Stephen—in both of which robbery ranged the kingdom almost without restraint; and in the latter especially, the whole land was almost given up as a prey to anarchy, and the power of the strongest... But still even this supremacy of the law was in many respects an oppressive bondage to the subject. In this, as in everything else, the main object of the government was the protection and augmentation of the royal revenue; and it may be correctly enough affirmed, that private robbery and depredation were prohibited and punished chiefly on the principle that no interference was to be tolerated with the rights of the great public robber, the government... Many of the laws, also, which were so sternly enforced, were in reality most unjust and grievous restrictions on the people. Of this character, in particular, were the forest laws, which punished a trespass upon the royal hunting grounds, or the slaughter of a wild beast, with the same penalty that was inflicted upon the robber or the murderer... And in all cases the vengeance of the law was wreaked upon its victims in a spirit so precipitate, reckless, and merciless,

that any salutary effect of the example must have been to a great extent neutralised by its tending to harden and brutalise the public mind ; and the most cruel injustice must have been often perpetrated in the name and under the direct authority of the laws...Henry I. was popularly called the Lion of Justice, and he well deserved the name. His mode of judicial procedure was in the highest degree summary and sweeping. In the twenty-fifth year of his reign, for instance, in a fit of furious indignation, occasioned by the continued and increasing debasement of the coin, he had all the moneyers in the kingdom, to the number of more than fifty, brought up before the Court of Exchequer, when, after a short examination by the treasurer, they were all, except four, taken one by one into an adjoining apartment, and punished by having their right hands struck off, and being otherwise mutilated...The year before, he had hanged at one time at Huncot, in Leicestershire, no fewer than forty-four persons, charged with highway robbery. Robberies, however, of the most atrocious description were, during a great part of the reign, perpetrated, without check, by the immediate servants, and it may be said under the very orders of the crown. ...The insolence of the purveyors and numerous followers of the court in the royal progresses is described by contemporary writers as having reached a height under this king, far transcending even what it had attained to under either of his immediate predecessors. They used not only to enter the houses of the farmers and peasantry without leave asked, to take up their lodgings and remain as long as it suited them, and to eat and drink their fill of whatever they found, but, in the wantonness of their official licence, frequently even to burn or otherwise destroy what they could not consume. At other times they would carry it away with them, and sell it...If the owners ventured to remonstrate, their houses would probably be set on fire about their ears, or mutilation, and sometimes even death, might punish their presumption. The approach of the king to any district, accordingly, spread as much dread as could have been occasioned by an announcement that a public enemy was at hand. The inhabitants were wont to conceal whatever they had, and flee to the woods.

It was not till the necessity of reforming these frightful abuses was at last forced upon Henry, by the solitude which he found around him wherever he appeared,—in other words, till this system of unrestrained rapacity came at last to defeat its own purpose,—that he had some of the delinquents brought before him, and punished by the amputation of a hand or a foot, or the extraction of one of their eyes... Yet the most unsparing

pillage of the people in other forms continued throughout the whole of his reign. Taxes were imposed with no reference to any other consideration except the wants of the crown; and the raising of the money was managed by any measures, however violent or irregular, that would serve that end. It is an affecting trait of the sufferings of one numerous class of the people which is recorded by the historian Eadmer, in his statement that the peasantry on the domains of the crown would sometimes offer to give up their ploughs to the king, from their inability to pay the heavy exactions with which they were burdened... These unhappy men, it is to be remembered, were without any means of escape from the extortion which thus ground them to the earth; even if, in some cases, they were not attached to the soil by any legal bond, they might still be considered as rooted to it nearly as much as the trees that grew on it; for in that state of society there was, generally speaking, no resource for the great body of the community except to remain in the sphere in which they were born, and in which their fathers had moved.

The same historian paints in strong colors the miseries occasioned by the oppressiveness of the general taxes. The collectors, he says, seemed to have no sense either of humanity or justice. It was equally unfortunate for a man to be possessed of money as to be without it. In the latter case, he was cast into prison, or obliged to flee from the country; or his goods were taken and sold; the very door of his house being sometimes carried away as a punishment for not satisfying the demand made upon him... But, if he had money, it was no better, his wealth was only a provocation to the rapacity of the government, which never ceased to harass him by threats of prosecutions on unfounded charges, or by some of the other means of extortion at its command, until it drove him to comply with its most unjust requisitions. The language of the Saxon chronicler is to the same purport, and equally strong. "God knows," says a contemporary writer, "how unjustly this miserable people is dealt with. First they are deprived of their property, and then they are put to death. If a man possesses anything, it is taken from him; if he has nothing he is left to perish by famine."

Half Hours.



ENGLAND IN THE THIRTEENTH AND FOURTEENTH
CENTURIES.

THE sources of the noblest rivers which spread fertility over continents, and bear richly laden fleets to the sea, are to be sought in wild and barren mountain tracts, incorrectly laid down in maps, and rarely explored by travellers. To such a tract the history of our country during the thirteenth century may not unaptly be compared. Sterile and obscure as is that portion of our annals, it is there that we must seek for the origin of our freedom, our prosperity, and our glory... Then it was that the great English people was formed, that the national character began to exhibit those peculiarities which it has ever since retained, and that our fathers became emphatically islanders,—islanders not merely in geographical position, but in their politics, their feelings, and their manners. Then first appeared with distinctness that constitution which has ever since, through all changes, preserved its identity; that constitution of which all the other free constitutions in the world are copies, and which, in spite of some defects, deserves to be regarded as the best under which any great society has ever yet existed during many ages... Then it was that the House of Commons, the archetype of all the representative assemblies which now meet, either in the Old or in the New World, held its first sittings. Then it was that the common law rose to the dignity of a science, and rapidly became a not unworthy rival of the imperial jurisprudence... Then it was that the courage of those sailors who manned the rude barks of the Cinque Ports first made the flag of England terrible on the seas. Then it was that the most ancient colleges which still exist at both the great national seats of learning were founded.

Early in the fourteenth century the amalgamation of the races was all but complete; and it was soon made manifest, by signs not to be mistaken, that a people inferior to none existing in the world had been formed by the mixture of three branches of the great Teutonic family with each other, and with the aboriginal Britons... There was, indeed, scarcely anything in common between the England to which John had been chased by Philip Augustus, and the England from which the armies of Edward the Third went forth to conquer France.

A period of more than a hundred years followed, during which the chief object of the English was to establish, by force of arms, a great empire on the Continent. The claim of Edward to the inheritance occupied by the House of Valois was a

claim in which it might seem that his subjects were little interested. But the passion for conquest spread fast from the prince to the people ... The war differed widely from the wars which the Plantagenets of the twelfth century had waged against the descendants of Hugh Capet. For the success of Henry the Second, or of Richard the First, would have made England a province of France. The effect of the successes of Edward the Third and of Henry the Fifth was to make France, for a time, a province of England...The disdain with which, in the twelfth century, the conquerors from the Continent had regarded the islanders, was now retorted by the islanders on the people of the Continent. Every yeoman from Kent to Northumberland valued himself as one of a race born for victory and dominion, and looked down with scorn on the nation before which his ancestors had trembled ... Nor were the arts of peace neglected by our fathers during that stirring period. While France was wasted by war, till she at length found in her own desolation a miserable defence against invaders, the English gathered in their harvests, adorned their cities, pleaded, traded, and studied in security ... Many of our noblest architectural monuments belong to that age. Then rose the fair chapels of New College and of St. George, the nave of Winchester, and the choir of York, the spire of Salisbury, and the majestic towers of Lincoln. A copious and forcible language, formed by an infusion of French into German, was now the common property of the aristocracy and of the people. Nor was it long before genius began to apply that admirable machine to worthy purposes.

In so splendid and imperial a manner did the English people, properly so called, first take place among the nations of the world. Yet, while we contemplate with pleasure the high and commanding qualities which our forefathers displayed, we cannot but admit that the end which they pursued was an end condemned both by humanity and by enlightened policy, and that the reverses which compelled them, after a long and bloody struggle, to relinquish the hope of establishing a great continental empire, were really blessings in the guise of disasters ... The spirit of the French was at last aroused: they began to oppose a vigorous national resistance to the foreign conquerors; and from that time the skill of the English captains and the courage of the English soldiers were, happily for mankind, exerted in vain. After many desperate struggles, and with many bitter regrets, our ancestors gave up the contest.

Cooped up once more within the limits of the island, the warlike people employed in civil strife those arms which had

been the terror of Europe. The means of profuse expenditure had long been drawn by the English barons from the oppressed provinces of France. That source of supply was gone; but the ostentatious and luxurious habits which prosperity had engendered still remained; and the great lords, unable to gratify their tastes by plundering the French, were eager to plunder each other. The realm to which they were now confined would not, in the phrase of Comines, the most judicious observer of that time, "suffice for them all" ... Two aristocratical factions, headed by two branches of the royal family, engaged in a long and fierce struggle for supremacy. As the animosity of those factions did not really arise from the dispute about the succession, it lasted long after all ground of dispute about the succession was removed... The party of the Red Rose survived the last prince who claimed the crown in right of Henry the Fourth. The party of the White Rose survived the marriage of Richmond and Elizabeth. Left without chiefs who had any decent show of right, the adherents of Lancaster rallied round a line of bastards, and the adherents of York set up a succession of impostors... When at length, many aspiring nobles had perished on the field of battle or by the hands of the executioner, when many illustrious houses had disappeared for ever from history, when those great families which remained had been exhausted and soothed by calamities, it was universally acknowledged that the claims of all the contending Plantagenets were united in the house of Tudor.

Macaulay.

DOMESTIC COMFORT IN THE FIFTEENTH CENTURY.

THE two most essential improvements in architecture during this period, one of which had been missed by the sagacity of Greece and Rome, were chimneys and glass-windows. Nothing apparently can be more simple than the former; yet the wisdom of ancient times had been content to let the smoke escape by an aperture in the centre of the roof; and a discovery of which Vitruvius had not a glimpse, was made, perhaps, in this country by some forgotten semi-barbarian. About the middle of the fourteenth century, the use of chimneys is distinctly mentioned in England and in Italy; but they are found in several of our castles which bear a much older date... This country seems to have lost very early the art of making glass, which was preserved in France, whence artificers were brought into England to furnish the windows in some new churches in the seventh century. It is said that in the reign of Henry III.,

a few ecclesiastical buildings had glazed windows. Suger, however, a century before, had adorned his great work, the Abbey of St. Dennis, with windows, not only glazed, but painted; and I presume that other churches of the same class, both in France and England, especially after the lancet-shaped window had yielded to one of ampler dimensions, were generally decorated in a similar manner... Yet glass is said not to have been employed in the domestic architecture of France before the fourteenth century, and its introduction into England was probably by no means earlier. Nor indeed did it come into general use during the period of the middle ages... Glazed windows were considered as moveable furniture, and probably bore a high price. When the earls of Northumberland, as late as the reign of Elizabeth, left Alnwick Castle, the windows were taken out of their frames, and carefully laid by.

But if the domestic buildings of the fifteenth century would not seem very spacious or convenient at present, far less would this luxurious generation be content with their internal accommodations. A gentleman's house containing three or four beds was extraordinarily well provided; few probably had more than two. The walls were commonly bare, without wainscot, or even plaster, except that some great houses were furnished with hangings, and that, perhaps, hardly so soon as the reign of Edward IV... It is unnecessary to add, that neither libraries of books nor pictures could have found a place among furniture. Silver plate was very rare, and hardly used for the table. A few inventories of furniture that still remain, exhibit a miserable deficiency. And this was incomparably greater in private gentlemen's houses than among citizens, and especially foreign merchants... We have an inventory of the goods belonging to Contarini, a rich Venetian trader, at his house in St. Botolph's Lane, A.D. 1481. There appear to have been no less than ten beds, and glass-windows are specially noticed as moveable furniture. No mention, however, is made of chairs, or looking-glasses... If we compare this account, however trifling in our estimation, with a similar inventory of furniture in Skipton Castle, the great honor of the earls of Cumberland, and among the most splendid mansions of the north, not at the same period, for I have not found any inventory of a nobleman's furniture so ancient, but in 1572, after almost a century of continual improvement, we shall be astonished at the inferior provision of the baronial residence... There were not more than seven or eight beds in this great castle, nor had any of the chambers either chairs, glasses, or carpets. It is in this sense, probably, that we must understand *Aeneas Sylvius*, if he meant

anything more than to express a traveller's discontent, when he declares that the kings of Scotland would rejoice to be as well lodged as the second class of citizens at Nuremberg. Few burghers of that town had mansions, I presume, equal to the palaces of Dunfermline or Stirling, but it is not unlikely that they were better furnished.

In the construction of farm-houses and cottages, especially the latter, there have probably been fewer changes; and those it would be more difficult to follow. Cottages in England seem to have generally consisted of a single room, without division of stories. Chimneys were unknown in such dwellings till the early part of Elizabeth's reign, when a very rapid and sensible improvement took place in the comforts of our yeomanry and cottagers.

Hallam.

TUDOR PERIOD (1485) TO THE REVOLUTION (1688).

FIELD SPORTS AND AGRICULTURE OF THE MIDDLE AGE.

THE favorite diversions of the middle ages, in the intervals of war, were those of hunting and hawking. The former must in all countries be a source of pleasure; but it seems to have been enjoyed in moderation by the Greeks and Romans. With the northern invaders, however, it was rather a predominant appetite than an amusement; it was their pride and their ornament, the theme of their songs, the object of their laws, and the business of their lives ... Falconry, unknown as a diversion to the ancients, became from the fourth century an equally delightful occupation. From the Salic and other barbarous codes of the fifth century, to the close of the period under our review, every age would furnish testimony to the ruling passion of these two species of chase, or, as they were sometimes called, the mysteries of woods and rivers. A knight seldom stirred from his house without a falcon on his wrist, or a greyhound that followed him ... Thus are Harold and his attendants represented in the famous tapestry of Bayeux. And in the monuments of those who died anywhere but on the field of battle; it is usual to find the greyhound lying at their feet, or the bird upon their wrist. Nor are the tombs of ladies without their falcon; for this diversion, being of less danger and fatigue than the chase, was shared by the delicate sex.

Though hunting had ceased to be a necessary means of procuring food, it was a very convenient resource, on which the wholesomeness and comfort, as well as the luxury of the table depended. Before the natural pastures were improved, and new kinds of fodder for cattle discovered, it was impossible to maintain the summer stock during the cold season. Hence a portion of it was regularly slaughtered and salted for winter provision ... We may suppose that, when no alternative was offered but these salted meats, even the leanest venison was devoured with relish. There was somewhat more excuse, therefore, for the severity with which the lords of forests and

manors preserved the beasts of the chase, than if they had been considered as merely objects of sport ... The laws relating to preservation of game were in every country uncommonly rigorous. They formed in England that odious system of forest laws which distinguished the tyranny of our Norman kings.

Capital punishment for killing a stag or wild boar was frequent, and perhaps warranted by law, until the charter of John. The French code was less severe, but even Henry IV. enacted the pain of death against the repeated offence of chasing deer in the royal forests. The privilege of hunting was reserved to the nobility till the reign of Louis IX., who extended it in some degree to persons of lower birth.

This excessive passion for the sports of the field produced those evils which are apt to result from it; a strenuous idleness, which disdained all useful occupations, and an oppressive spirit toward the peasantry. The devastation committed under the pretence of destroying wild animals, which had been already protected in their depredations, is noticed in serious authors, and has also been the topic of popular ballads ... What effect this must have had on agriculture, it is easy to conjecture. The levelling of forests, the draining of morasses, and the extirpation of mischievous animals which inhabit them, are the first objects of man's labor in reclaiming the earth to his use; and these were forbidden by a landed aristocracy, whose control over the progress of agricultural improvement was unlimited, and who had not yet learned to sacrifice their pleasures to their avarice.

Hallam.

SKETCHES OF ENGLAND IN 1537.

[The time here described is that in which the struggle between the old Catholic and the new Protestant Faith became a national one.]

IN periods like the present, when knowledge is every day extending, and the habits and thoughts of mankind are perpetually changing under the influence of new discoveries, it is no easy matter to throw ourselves back into a time, in which for centuries the European world grew upon a single type; the forms of the father's thoughts were the forms of the son's, and the late descendant was occupied in treading into paths the footprints of his ancestors.

So absolutely has change become the law of our present condition that it is identified with energy and moral health; to cease to change is to lose place in the great race; and to pass

away from off the earth with the same convictions which w
found when we entered it, is to have missed the best obje
for which we seemed to exist.

It has been, however, with the race of men as it has bee
with the planet which they inhabit. As we look back ove
history, we see times of change and progress alternating wit
other times when life and thought have settled into permane
forms; when mankind, as if by common consent, have cease
to seek for increase of knowledge, and, contented with wh
they possess, have endeavored to make use of it for th
purpose of moral cultivation. Such was the condition of th
Greeks through many ages before the Persian war; such w
that of the Romans, till the world revenged itself upon i
conquerors by the introduction of the habits of the conquer
among them... And such again became the condition of Europe
when the Northern nations grafted the religion and laws
the Western empire on their own hardy natures, and shape
out that wonderful spiritual and political organisation whic
remained unshaken for a thousand years... It is difficult
place ourselves in sympathy with times so unlike our own, an
our knowledge of them is little more than external. In th
alteration of our own character we have lost the key whic
would unlock the secret of theirs; and the great men even
our own English history before the reformation seem to t
almost like the fossil skeletons of another order of beings.

* * * * *

I must take my reader below the surface of outward even
to the under-current of the war of opinions, where the forc
were generated which gave to the time its life and meanin
Without some insight into this region, history is but a dun
show of phantoms; yet, when we gaze into it with our be
efforts, we catch but fitful images and fleeting pictures...
palace and cottage, in village church and metropolitan cath
edral, at the board of the Privy Council or in the road-side al
house, the same questions were discussed, the same passio
were agitated. A mysterious change was in process in t
minds of men. They knew not what it was, they could
control its speed or guide its direction. A few scenes out
this strange time have been preserved for us out of the recor
They may pass one by one before us like the pictures in
magic slide.

The first picture that appears is a friar mendicant, living
the alms of the king's subjects, forming himself to the fashi
of the people. He is going about from house to house, &
when he comes to aged and to simple people he will say

them, "Father or sister, what a world this is! It was not so in your father's days. It is a perilous world. They will have no pilgrimages. They will not that we should pray to saints, or fast, or do any good deeds. O Lord, have mercy on us! I will live as my forefathers have done. And I am sure your fathers and friends were good, and ye have followed them hitherto. Continue as ye have done and believe as they believed."

The friar disappears. A neighbour, of the new opinions, who has seen him come and go, takes his place, and then begins an argument. One says, "My father's faith shall be my faith;" and the other, hot and foolish, answers, "Thy father was a liar and is in hell, and so is my father in hell also. My father never knew Scripture, and now it is come forth."

The slide again moves. We are in a village church, and there is a window gorgeously painted, representing the various events in the life and death of Thomas à Becket. The king sits on his throne, and speaks fiercely to his four knights. The knights mount their horses and gallop to Canterbury. The archbishop is at vespers in the choir. The knights stride in and smite him dead... Then follows the retribution. In the great central compartment of the window the haughty prince is kneeling naked before the shrine of the martyr, and the monks stand round him and beat him with their rods. All over England in such images of luminous beauty the memory of the great victory of the clergy had been perpetuated... And now the particular church is Woodstock, the court is at the park, and day after day, in the church aisles groups of people assemble to gaze upon the window, and priests and pardoners expatiate with an obvious application on the glories of the martyr, the Church's victory, and the humiliation of the king. Eager ears listen; eager tongues draw comparisons... A groom is lounging among the crowd, and interrupts the speakers somewhat disdainfully; he says that he sees no more reason why Becket was a saint than Robin Hood. No word is mentioned of the profanity to Henry; but a priest carries the story to Gardiner and Sir William Paulet. The groom is told that he might as well reason of the king's title as of St. Thomas's; forthwith he is hurried off under charge of heresy to the Tower; and, appealing to Cromwell, there follows a storm at the council table.

We are next at Worcester, at the Lady Chapel, on the eve of the Assumption. There is a famous image of the Virgin there, and to check the superstition of the people the gorgeous dress has been taken off by Cromwell's order. A citizen of Worcester approaches the figure. "Ah, Lady," he cries, "art

thou stripped now? I have seen the day that as clean men had been stripped at a pair of gallows as were they that stripped thee." Then he kisses the image, and turns to the people and says, " Ye that be disposed to offer, the figure is no worse than it was before," " having a remorse unto her."

Again, we find accounts of the reception which the English Bible met with in country parishes.

A circle of Protestants at Wincanton, in Somersetshire, wrote to Cromwell complaining of the curate, who "would not teach them or preach to them, but gave his time and attention to dicing, carding, and bowling" ... In their desire for spiritual food they applied to the rector of the next parish, who had come occasionally and given them a sermon, and had taught them to read the New Testament; when suddenly, on Good Friday, "the unthrifty curate entered the pulpit where he had set no foot for years, and admonished his parishioners to give no credence to the new-fangled fellows which read the new books" ... "They be like knaves and Pharisees," he said; "they be like a dog that gnaweth a marrow-bone, and never cometh to the pith, therefore avoid their company; and if any man will preach the New Testament, if I may hear him, I am ready to fight with him incontinent;" and, "indeed," the petitioners said, "he applyeth in such wise his school of fence so sore continually, that he feareth all his parishioners."

So the parish clerk at Hastings made a speech to the congregation on the faults of the translation. "It taught heresy," he said; "it taught that a priest might have a wife by God's law. He trusted to see the day that the book called the Bible, and all its maintainers and upholders, should be burnt."

On the other hand, the Protestants gave themselves no pains to make their heterodoxy decent, or to spare the feelings of their antagonists. To call "a spade a spade," and a rogue a rogue, were Protestant axioms. Their favorite weapons were mystery plays, which they acted up and down the country in barns, in taverns, in chambers, on occasion, before the vicar-general himself; and the language of these, as well as the language of their own daily life, seemed constructed as if to pour scorn on the old belief... Men engaged in a mortal strife usually speak plainly. Blunt words strike home, and the euphemism which, in more ingenious ages, discovers that men mean the same thing when they say opposite things, was unknown or at least unappreciated. On both sides the same obstinate English nature was stirred into energetic hate, which found vent in ribald and blasphemous expressions.

For a thousand years there had been one faith in Western

Christendom. From the isles of Arran to the Danube, thirty generations had followed each other to the grave, who had held all to the same convictions, who had prayed all in the same words. What was this that had gone out among men that they were so changed ?

Froude.

CORRUPT STATE OF THE CHURCH BEFORE THE
REFORMATION.

HENRY VIII., a mere boy on his accession, trained from childhood by theologians, entered on his reign saturated with theological prepossessions. The intensity of his nature recognising no half measures, he was prepared to make them the law of his life ; and it seemed as if the restoration was to lose no part of its completeness, and that in Henry the church had found a new Alfred or Charlemagne... Unfortunately for the church, institutions may be restored in theory ; but theory, be it ever so perfect, will not give them back their life ; and Henry discovered, at length, that the church of the sixteenth century was no more like that of the eleventh, than Leo X. resembled Hildebrand, or poor Warham, St. Anselm.

If, however, there were no longer saints among the clergy, there could still arise among them a remarkable man ; and in Cardinal Wolsey the King found an adviser who was able to retain him longer than would otherwise have been possible in the course which he had entered upon ; who, holding a middle place between an English statesman and a catholic of the old order, was essentially a transition minister ; who was qualified above all men then living, by a combination of talent, honesty, and arrogance, to open questions which could not again be closed when they had escaped the grasp of their originator... Under Wolsey's influence, Henry made war with Louis of France, in the Pope's quarrel, entered the polemic lists with Luther, and persecuted the English Protestants. But Wolsey could not blind himself to the true condition of the church... He was too wise to be deceived with outward prosperity ; he knew well that there lay before it, on the continent and at home, the alternative of ruin or amendment ; and therefore he familiarised Henry with the sense that a reformation was inevitable ; and, dreaming that it could be effected from within, by the church itself, inspired with a wiser spirit, he himself fell the first victim of a convulsion which he had assisted to create, and which he attempted too late to stay.

His intended measures were approaching maturity, when all

Europe was startled by the news that Rome had been stormed by the Imperial army, that the Pope was imprisoned, the churches pillaged, the cardinals insulted, and all holiest things polluted and profaned... A spectator, judging only by outward symptoms, would have seen at that strange crisis in Charles V. the worst patron of heresy, and the most dangerous enemy of the Holy See; while the indignation with which the news of these outrages was received at the English court would have taught him to look on Henry as the one sovereign in Europe on whom that See might calculate most surely for support in its hour of danger... If he could have pierced below the surface, he would have found that the Pope's best friend was the prince who held him prisoner; that Henry was but doubtfully acquiescing in the policy of an unpopular minister; and that the English nation would have looked on with stoical indignation if Pope and Papacy had been wrecked together. They were not inclined to heresy; but the ecclesiastical system was not the catholic faith; and this system, ruined by prosperity, was fast pressing its excesses to the extreme limit, beyond which it could not be endured... Wolsey talked of reformation, but delayed its coming; and in the mean time, the persons to be reformed showed no fear that it would come at all. The monasteries grew worse and worse. The people were taught only what they could teach themselves. The consistory courts became more oppressive. Pluralities multiplied, and non-residence and profligacy... Favored parish clergy held as many as eight benefices. Bishops accumulated sees, and unable to attend to all, attended to none. Wolsey himself, the church reformer (so little did he really know what a reformation meant), was at once Archbishop of York, Bishop of Winchester, of Bath, and of Durham, and Abbot of St. Albans... Under such circumstances, we need not be surprised to find the clergy sunk low in the respect of the English people. Sternly intolerant of each other's faults, the laity were not likely to be indulgent to the vices of men who ought to have set an example of purity; and from time to time during the first quarter of the century, there were explosions of temper which might have served as a warning if any sense or judgment had been left to profit by it.

Froude.

DEATH OF CARDINAL WOLSEY.

WOLSEY had been dismissed from court, and had retired to his palace at Cawood previous to his installation at York as arch-

bishop. He was suddenly arrested on a charge of high treason by the Earl of Northumberland, and was forced to set out for the metropolis. Very soon the Cardinal fell ill; and it is evident, from the cautions observed, that those about him suspected that he intended to poison himself... Ill as he was, the Earl of Shrewsbury put the fallen man under the charge of Sir William Kingston, the Lieutenant of the Tower, whom the King had sent for the Cardinal, with twenty-four of his guard, and with this escort he departed on his last journey. And the next day he took his journey with Master Kingston and the guard. "And as soon as they had espied their old master in such a lamentable estate, they lamented him with weeping eyes... Whom my lord took by the hands, and divers times, by the way as he rode, he would talk with them, sometime with one and sometime with another; at night he was lodged at a house of the Earl of Shrewsbury's, called Hardwick Hall, very evil at ease. The next day he rode to Nottingham, and there lodged that night more sicker, and the next day he rode to Leicester Abbey; and by the way he waxed so sick, that he was divers times likely to have fallen from his mule, and being night before we came to the Abbey of Leicester, at his coming in at the gates the abbot of the place and all his convent met him with the light of many torches; and whom they right honorably received with great reverence... To whom my lord said, 'Father Abbot, I am come hither to leave my bones among you;' whom they brought on his mule to the stairs' foot of his chamber, and there alighted, and Master Kingston then took him by the arm, and led him up the stairs, who told me afterwards that he never carried so heavy a burden in all his life... And as soon as he was in his chamber, he went incontinent to his bed, very sick. This was upon Saturday, at night, and there he continued sicker and sicker." The narrative then goes on to exhibit a long speech of the Cardinal against "this new pernicious sect of Lutherans."... At last Wolsey said, "Master Kingston, farewell; I can no more, but wish all things to have good success. My time draweth on fast, I may not tarry with you. And forget not, I pray you, what I have said and charged you withal; for when I am dead, ye shall peradventure remember my words much better." And even with these words he began to draw his speech at length, and his tongue to fail; whose eyes being set in his head, whose sight failed him... Then we began to put him in remembrance of Christ's passion, and sent for the abbot to anneal him, who came with all speed and ministered unto him all the service to the same belonging; and caused also the guard to stand by, both to hear him talk before his death, and

also to witness of the same ; and incontinent the clock struck eight, at which time he gave up the ghost, and thus departed he this present life ... And calling to our remembrance his words the day before, how he said that at eight of the clock we should lose our master, one of us looking upon another, supposing that he prophesied of his departure ... Here is the end of pride and arrogancy of such men, exalted by fortune to honors and high dignities ; for I assure you, in his time of authority and glory, he was the haughtiest man in his proceedings that then lived, having more respect to the worldly honor of his person than he had to his spiritual profession ; wherein should be all meekness, humility, and charity ; the process whereof I leave to them that be learned and seen in divine laws." *Cavendish.*

SIR THOMAS MORE.

IN the month of November, 1534, parliament passed a variety of acts, which had for their object the creating Henry VIII. into a sort of lay-pope, with full power to define and punish heresies, and to support what he deemed the true belief, or the proper system of church government. The first fruits and tenths were now annexed to the crown for ever, and a new oath of supremacy was devised and taken by the bishops.

On all those conscientious men who preferred death to what they considered a breach of their duty as Catholic priests, the horrible sentence of the law was executed in all its particulars. They were cut down alive, had their bowels torn out, and were then beheaded and dismembered. They suffered on account of the oath of supremacy ; but between the executions there was an atrocious interlude of a doctrinal nature.

Greater victims were now stricken ; for, in the execution of his rigid policy, Henry had resolved to shed the blood of Fisher and of More. Both these illustrious men became close prisoners in the tower. The aged bishop was put upon his trial for having maliciously and traitorously said that the king could not, in spiritual matters, be the head of the Church.

SIR THOMAS MORE was asked whether he would obey the king's highness as supreme head on earth, immediately under Christ, of the Church of England, and him so repute, take, accept, and recognise, according to the statute. To this he said that he could make no answer ... He was next asked whether he could consent and approve the king's marriage with the most noble Queen Anne to be good and lawful, and affirm that the marriage with the Lady Catherine, Princess Dowager, was and is

unjust and unlawful. He replied, that he did never speak nor meddle against the same, but that he would make no further answer...Finally, they demanded whether he, being one of the king's subjects, was not bound to recognise the supremacy as all other subjects were bound thereto by the statute. He replied again that he could make no answer.

Before this he had said, in an affecting letter, "I am the king's true faithful subject and daily beadsman. I pray for his highness, and all his, and all the realm. I do nothing harm ; I say no harm, I think none harm, and wish everybody good ; and if this be not enough to keep a man alive, in good faith I long not to live. I am dying already ; and, since I came here, have been divers times in the case that I thought to die within one hour. And I thank our Lord I was never sorry for it, but rather sorry when I saw the pang passed ; and, therefore, my poor body is at the king's pleasure. Would to God my death might do him good ! " ...At length, after a year's most trying imprisonment, he was brought out of the Tower, led on foot through the crowded streets to Westminster Hall, and there arraigned on a charge of high treason. He appeared in that court, where he had once presided as an upright judge, in a coarse woollen gown, bearing on him frightful evidences of a rigorous confinement...His hair had become white, his face was pallid and emaciated, and he was obliged to support himself on a staff. But the mind was much less bowed and bent, and some of his old wit and vivacity soon lighted upon his sunken eye ; and his judges dreaded his eloquence, and the sympathy which the mere sight of him excited...They attempted to overpower and confound him with the length and wordiness of the indictment. But after declining an offer of pardon, upon condition of doing the king's will, he entered upon a clear and eloquent defence, stripping the clauses of their false coverings, and exposing them in their nakedness and nothingness...He maintained that neither by word nor deed had he done anything against the king's marriage with Anne Boleyn ; he had indeed disapproved of that business, but he had never expressed this disapprobation to any other person than the king, who had commanded him on his allegiance, to give his real opinion. As to his having sought to deprive the king of his new title of Supreme Head of the Church, he said that all that he had done was to be silent thereon, and that silence was not treason...But his doom was fixed by those who had put themselves above all law or scruples of conscience. The infamous Rich, the solicitor-general, deposed that, in a private conversation he had had with the

prisoner in the Tower, More said : "The parliament cannot make the king the head of the church, because it is a civil tribunal, without authority in spiritual matters " ... More denied that he had spoken these words ; and he remarked upon the character which Rich had borne in the world, and which was so bad as to render even his oath unworthy of belief. Two witnesses were produced to support the charge made by Rich ; but in their case conscience got the better of authority, and they declared that, though they were in the room, they did not pay attention to what was said.

The judges laid it down as a law that silence *was* treason, and the jury without any hesitation returned a verdict of guilty. When sentence had been pronounced, More rose to address the court. He was coarsely interrupted. He tried again, and was again interrupted ; but on a third attempt he was allowed to proceed... He told them that what he had hitherto concealed, he would now openly declare, and he boldly proclaimed that the oath of supremacy was utterly unlawful. He regretted to differ from the noble lords whom he saw on the bench, but his conscience would not permit him to do otherwise. He declared he had no animosity against them ; and that he hoped that, even as St. Paul was present and consented to the death of Stephen, and yet was afterwards a companion saint in heaven, so they and he should meet together hereafter. "And so," he concluded, "may God preserve you all, and especially my lord the king, and send him good counsel ! " ... As he moved from the bar, his son rushed through the hall, fell upon his knees, and begged his blessing. With the axe turned towards him, he walked back to the Tower, amid a commiserating throng of citizens... On reaching the Tower-wharf, his dear daughter, Margaret Roper, forced her way through the officers and halberdiers that surrounded him, clasped him round the neck, and sobbed aloud. Sir Thomas consoled her, and she collected sufficient power to bid him farewell for ever ; but as her father moved on, she again rushed through the crowd, and threw herself upon his neck... Here the weakness of nature overcame him, and he wept as he repeated his blessing and his Christian consolation. The people wept too ; and his guards were so much affected, that they could hardly summon up resolution to separate the father and daughter... After this trial the anguish of death was passed. The old man's wit flashed brightly in his last moments. When told that the king had mercifully commuted the hanging, drawing, and quartering to simple decapitation, he said, "God preserve all my friends from such royal favors ! " ... This happy vein accompanied him to the

very scaffold. The framework was weak ; and some fears were expressed lest it might break down. "Mr. Lieutenant," said More, "see me safe up, and for my coming down let me shift for myself" ... The executioner as usual asked forgiveness. "Friend," said More, "thou wilt render me to-day the greatest service in the power of man ; but my neck is very short ; take heed, therefore, not to strike awry, for the credit of your profession" ... He was not permitted to address the spectators, but he ventured to declare he died a faithful subject and a true Catholic. After prayers he placed his head upon the block, bidding the headsman hold his hand until he removed his beard, and saying with a smile, "My beard has never committed any treason." Then the blow fell, and the neck was severed at once. His head was picked up and fixed on London Bridge.

Pictorial History of England.

A CONTRAST: LUTHER AND ST. ELIZABETH.

THE Reformation was a mighty change, destroying much, and also creating much : a conflict in which some of the strongest principles of human nature were brought into the most violent collision. Of the effects of that convulsion, of the results of that collision, we are the inheritors.

You know what it produced : let me say one word of what it destroyed. It destroyed the whole system of the middle ages, papal and feudal, so that in the exact form in which it existed before it never has revived. All the worst evils which belonged to both those ancient systems received a blow from which they never recovered.

But it is one advantage of looking calmly at a great change from the distant height of three centuries that we can fairly ask ourselves, without fear of quarrelling, whether there was anything which prevailed then of which the spirit is still to be honored, even though its form is entirely gone ; and as an illustration of what I mean, I will carry you back to Germany, to one of the scenes most celebrated in the history of Luther's life ... In the midst of the wild upland tract which forms the centre of Germany, between Frankfort and Leipsic, is one spot, distinguished from all the surrounding country by its singular and romantic beauty. The unmeaning downs rise into bold rocky hills ; the patches of wood sink into unfathomable depths of forest, and from the midst of these towers the cluster of heights, on the highest of which stands the ancient castle of the Wartburg, or Watchtower of Eisenach ... In that castle there lived

at the beginning of the thirteenth century one of the most saintly characters of the middle ages, Elizabeth, Duchess of Thuringia. Her life, which was consumed partly in deeds of unbounded charity to the surrounding poor, partly in patient endurance of oppression and affliction of all kinds, is one of the most instructive records of those times that can be read.

It abounds with all the extravagance and superstition which mark the lives of so many Roman Catholic saints; but it is also one of the best examples of the character which marks so many of the holy men, and especially of the holy women, of the Roman Catholic Church, and which is still to be seen in the hospitals of foreign countries,—that devotion, namely, which spends itself in the service and condition of the poor, the sick, and the afflicted... There she lived and suffered, and there her memory was long preserved in the grateful recollection of the Thuringian peasants.

Up the rugged pathway to that same castle three hundred years afterwards, there rode at the dead of night a troop of five horsemen, leading behind them in custody a man closely muffled in a cavalier's cloak, who was brought in silence into the court of the fortress, and the gates closed immediately behind him.

That man was Luther; those horsemen were the guard sent by the Elector of Saxony to carry him off on his return from Worms, and conceal him in this lonely and secluded spot till the fury of his enemies was overpast; and there, in what he called his Patmos, he lived unknown and in disguise for some of the most critical months of his career, and began that great work of his life which alone would make his name famous to all after ages—the translation of the Bible into the German language... This castle, then, is remarkable as combining in itself more than any other spot the associations of the old and the new, of the Middle Ages and of the Reformation which destroyed them;—and accordingly, in the popular traditions, Luther and St. Elizabeth still hold divided sway.

There you still see the retired valley winding under the foot of the hill, where she distributed food to the poor: there, en-sconced beneath a deep thicket in the wood, is the stone basin of the spring, where with her own hands she washed their clothes: there, visible from the castle-terrace, rises in the distance the mountain of Inselberg, which, “were it of pure gold,” her husband declared to her, “and though it were offered to him, he would never forsake her.”

There, too, you look down the long wooded slopes, where Luther whiled away the hours of his captivity by gathering the wild strawberries on the mountain side, or watching the sports

of the chase: there is still preserved the trunk of the tree, under which he was seized by the Elector's troopers: there is the room where he translated the Scriptures, and the mark still shown on the wall of the ink which he hurled at the Evil Spirit, whom in his hours of study his wild imagination conjured up before him in the midst of that deep solitude.

But St. Elizabeth and Luther, so near together in place, how far were they asunder in mind, in temper, in circumstances! *She*, we cannot doubt, had she been foreshown who was to appear in her favorite haunts, and inhabit her beloved home, would have shrunk with horror from his vehemence, his boldness, as from absolute blasphemy and impiety... *He*, we know, lived on the scene of her good deeds without ever in thought or word adverting to them; he preached day by day in the castle-chapel with the representations of her life drawn out in pictures before him, without ever thinking of them further than as monuments of the superstition of a by-gone age. Such were, or such would have been, their feelings towards each other.

And now (for this is the cause of my thus bringing them together) w^ould ours be so also? No; we well know it would be no such thing. There is not one of us, who, however great his admiration for Luther, would not spare some sympathy and esteem for the virtues and the sufferings of the saintly princess: there is not one of us, who, however profound his respect for the Middle Ages, would not on that spot feel a glow of enthusiasm in behalf of the courageous labors of the great Reformer.

And why is it that we feel so differently for them? It is not that we are better than they;—(would indeed that we had half the holiness or the energy of either of them!) but it is that the enlarged experience of three centuries has enabled us to see what they could not, that the qualities which they severally displayed were but two opposite sides of the same divine character, which have been joined once and may be joined again... This faculty of appreciating various Christian graces, which to their several possessors were utterly unintelligible, is the new gift, the peculiar privilege, which Providence has bestowed upon us, to be used or neglected at our peril; it is the power especially within the reach of those who, as I before said, have been heirs of the mingled elements of the English Reformation, who are members of the Church and Commonwealth of the mixed nation of England... We see and acknowledge,—we cannot help acknowledging,—that in each of these forms of character, and in many similar differences, there is a good which the other has not: is it too much to

hope that a time may come when we shall not only be able to admire them separately, but to practise them conjointly!... Thus the sight, the hearing, or the reading, of such conflicting associations as those of the Thuringian fortress might be to us a second Patmos, in a higher sense than it was to Luther, if only it would disclose to us a vision of the means by which we could inculcate on others, or exemplify in ourselves, a union of those forms of goodness and wisdom that have been often so fatally dissevered from each other,—the union of all that is humble, and pure, and self-denying, and holy, with all that is manly, and just, and wise, and free... Such a union may be a difficult task; but it is not to be despaired of, if we do not despair of ourselves. It is the living hope which the Reformation, especially the English Reformation, holds out to us: it is the hope, above all, of this generation, if only it will have the energy and the candor to act up to its power and its knowledge.

Stanley: "*Evening Recreations.*"



THE TUDOR RULE.

THE history of the Reformation in England is full of strange problems. The most prominent and extraordinary phenomenon which it presents is the gigantic strength of the government contrasted with the feebleness of the religious parties. During the twelve or thirteen years which followed the death of Henry VIII. the religion of the state was thrice changed. Protestantism was established by Edward; the Catholic church was restored by Mary; Protestantism was again established by Elizabeth... The faith of the nation seemed to depend on the personal inclination of the sovereign. Nor was this all. An established church was then, as a matter of course, a persecuting church. Edward persecuted Catholics, Mary persecuted Protestants. Elizabeth persecuted Catholics again. The father of those three sovereigns had enjoyed the pleasure of persecuting both sects at once, and had sent to death, on the same hurdle, the heretic who denied the real presence, and the traitor who denied the royal supremacy.

The English Protestants, after several years of domination, sank down with scarcely a struggle under the tyranny of Mary. The Catholics, after having regained and abused their old ascendancy, submitted patiently to the severe rule of Elizabeth. Neither Protestant nor Catholic engaged in any great and well organised scheme of resistance. A few wild and tumultuous risings, sup-

sed as soon as they appeared, a few dark conspiracies in which a small number of desperate men engaged, such were the ost efforts made by these two parties to assert the most sacred man rights, attacked by the most odious tyranny ... The anation of these circumstances which has generally been n is very simple, but by no means satisfactory. The er of the crown, it is said, was then at its height, and was ict despotic. This solution, we own, seems to us to be no tion at all ... Elizabeth, it is true, often spoke to her par ents in language as haughty and imperious as that which Great Turk would use to his divan. She punished with t severity members of the House of Commons who, in her ion, carried the freedom of debate too far. She assumed power of legislating by means of proclamations. She risoned her subjects without bringing them to a legal trial. ture was often employed, in defiance of the laws of England, the purpose of extorting confessions from those who were t up in her dungeons ... The authority of the Star-Chamber of the Ecclesiastical Commission was at its highest point. re restraints were imposed on political and religious dis sion. The number of presses was at one time limited. man could print without a licence ; and every work had undergo the scrutiny of the Primate, or the Bishop of adon ... Persons whose writings were displeasing to the irt, were cruelly mutilated, like Stubbs, or put to death, Penry. Nonconformity was severely punished. The een prescribed the exact rule of religious faith and dis line ; and whoever departed from that rule, either to the ht or to the left, was in danger of severe penalties ... Such this government. Yet we know that it was loved by great body of those who lived under it. We know that, ing the fierce contests of the sixteenth century, both the tile parties spoke of the time of Elizabeth as of a golden . That great Queen has now been lying two hundred and ty years in Henry the Seventh's chapel. Yet her memory till dear to the hearts of a free people.

The truth seems to be, that the government of the Tudor s, with a few occasional deviations, a popular government, ler the form of despotism. The authority of Elizabeth rested ely on the support of her people. Those who say that her wer was absolute, do not sufficiently consider in what her wer consisted. Her power consisted in the willing obedience her subjects, in their attachment to her person and to her ice, in their respect for the old line from which she sprang, their sense of the general security which they enjoyed under

her government... These were the means, and the only means, which she had at her command for carrying her decrees into execution, for resisting foreign enemies, and for crushing domestic treason. There was not a ward in the city, there was not a hundred in any shire in England, which could not have overpowered the handful of armed men who composed her household... If a hostile sovereign threatened invasion, if an ambitious noble raised the standard of revolt, she could have recourse only to the trainbands of her capital and the array of her counties, to the citizens and yeomen of England, commanded by the merchants and esquires of England.

The English in the sixteenth century were, beyond all doubt, a free people. They had not, indeed, the outward show of freedom; but they had the reality. They had not as good a constitution as we have; but they had that without which the best constitution is as useless as the king's proclamation against vice and immorality, that which, without any constitution, keeps rulers in awe,— force, and the spirit to use it... Parliaments, it is true, were rarely held, and were not very respectfully treated. The great charter was often violated. But the people had a security against gross and systematic misgovernment, far stronger than all the parchment that was ever marked with the sign manual, and than all the wax that was ever pressed by the great seal.

A modern Englishman can hardly understand how the people can have had any real security for good government under kings who levied benevolences, and chid the House of Commons as they would have chid a pack of dogs. People do not sufficiently consider that, though the legal checks were feeble, the natural checks were strong... There was one great and effectual limitation on the royal authority,— the knowledge that, if the patience of the nation were severely tried, the nation would put forth its strength, and that its strength would be found irresistible. If a large body of Englishmen became thoroughly discontented, instead of presenting requisitions, holding large meetings, passing resolutions, signing petitions, forming associations and unions, they rose up; they took their halberds and their bows; and if the sovereign was not sufficiently popular to find among his subjects other halberds and other bows to oppose to the rebels, nothing remained for him but a repetition of the horrible scenes of Berkeley and Pomfret. ... He had no regular army which could, by its superior arms, and its superior skill, overawe or vanquish the sturdy Commons of England, abounding in the native hardihood of Englishmen, and trained in the simple discipline of the militia.

enjoy all the state and all the personal indulgences of state power, to be adored with Oriental prostrations, to be at will of the liberty and even of the life of ministers and courtiers, this the nation granted to the Tudors... But the nation on which they were suffered to be the tyrants of the realm was that they should be the mild and paternal sovereigns of England. They were under the same restraints with regard to their people under which a military despot is with regard to his army. They would have found it eros to grind their subjects with cruel taxation... Those immediately surrounded the royal person, and engaged in hazardous game of ambition, were exposed to the most ul dangers. Buckingham, Cromwell, Surrey, Seymour of Ley, Somerset, Northumberland, Suffolk, Norfolk, Essex, led on the scaffold... But in general the country gentleman ed, and the merchant traded, in peace. Even Henry, as as Domitian, but far more politic, contrived, while reeking the blood of the Lamire, to be a favorite with the leers.

The Tudors committed very tyrannical acts. But in their early dealings with the people, they were not and could safely be tyrants. Some excesses were easily pardoned. The nation was proud of the high and fiery blood of its nificent princes, and saw, in many proceedings which a er would even then have condemned, the outbreak of a noble spirit. But to this endurance there was a limit... The Government ventured to adopt measures which the people y felt to be oppressive, it was soon compelled to change its e. When Henry the Eighth attempted to raise a forced of unusual rigor, the opposition which he encountered such as appalled even his stubborn and imperious spirit ... people, we are told, said that, if they were treated thus, "n were it worse than the taxes of France; and England ld be bond and not free." The county of Suffolk rose in . The King prudently yielded to an opposition which, if ad persisted, would, in all probability, have taken the form general rebellion ... Towards the close of the reign of Eli-
th, the people felt themselves aggrieved by the monopolies. Queen, proud and courageous as she was, shrank from a est with the nation, and, with admirable sagacity, conceded hat her subjects had demanded, while it was yet in her er to concede with dignity and grace. cannot be imagined that a people who had in their own

hands the means of checking their princes, would suffer any prince to impose upon them a religion generally detested. It is absurd to suppose that, if the nation had been decidedly attached to the Protestant faith, Mary could have re-established the Papal supremacy ... It is equally absurd to suppose that, if the nation had been zealous for the ancient religion, Elizabeth could have restored the Protestant Church. The truth is, that the people were not disposed to engage in a struggle either for the new or for the old doctrines. Abundance of spirit was shown when it seemed likely that Mary would resume her father's grants of Church property, or that she would sacrifice the interests of England to the husband whom she regarded with unmerited tenderness ... That Queen found that it would be madness to attempt the restoration of the abbey lands. She found that her subjects would never suffer her to make her hereditary kingdom a fief of Castile. On these points, she encountered a steady resistance, and was compelled to give way ... If she was not able to establish the Catholic worship, and to persecute those who would not conform to it, it was evidently because the people cared far less for the Protestant religion than for the rights of property and for the independence of the English crown. In plain words, they did not think the difference between the hostile sects worth a struggle ... There was undoubtedly a zealous Protestant party and a zealous Catholic party. But both these parties were, we believe, very small. We doubt whether both together made up, at the time of Mary's death, the twentieth part of the nation. The remaining nineteen twentieths halted between the two opinions, and were not disposed to risk a revolution in the Government, for the purpose of giving to either of the extreme factions an advantage over the other.

Macaulay.

In great emergencies, Mary showed a truly royal spirit, worthy of the greatest of the Tudors. It was her own determination and spirit which really secured her succession, and preserved her throne through a short but troubled reign. Her conduct in the crisis of Wyatt's insurrection calls forth the just admiration of the chronicler Holinshed. "More than marvel it was," he says, "to see that day the invincible heart and constancy of the Queen herself, who, being by nature a woman, and therefore commonly more fearful than men be, showing itself in that case more stout than is credible... For she, notwithstanding all the fearful news that were brought to her that day, never abashed. Insomuch, that when one or two noblemen, being her captains, came in all haste to tell

her (though untruly) that her battles were yielded to Wyatt, she, nothing moved thereat, said it was their fond opinion that durst not come near to the trial; saying further, that she herself would enter the field to try the truth of her quarrel, and to die with them that would serve her, rather than to yield one iota unto such a traitor as Wyatt was; and prepared herself accordingly." It must also be said in behalf of Mary, that if she fell below the Tudor standard in breadth of intellect, she rose above it in the quality of sincerity ... Edward VI. was too much under the guidance of others, and died at too early an age, to enable us to form any very precise idea of the specialities of his character. He seems, however, to have been as narrow a Protestant as Mary was a Catholic; to have been equally sincere, but to have exhibited his earnestness rather in intense obstinacy than in fiery zeal. Like all the Tudors, he was learned and accomplished, in something more than the ordinary acceptation of the term; but seems to have been rather stiffly pedantic.

Sanford.

ELIZABETH.

QUEEN ELIZABETH has a dark side to her character. Yet she surely was a great woman. Of all the sovereigns who exercised a power which was seemingly absolute, but which, in fact, depended for support on the love and confidence of their subjects, she was by far the most illustrious... It has often been alleged as an excuse for the misgovernment of her successors, that they only followed her example, that precedents might be found in the transactions of her reign for persecuting the Puritans, for levying money without the sanction of the House of Commons, for confining men without bringing them to trial, for interfering with the liberty of parliamentary debate... All this may be true. But it is no good plea for her successors: and for this plain reason, that they were her successors. She governed one generation, they governed another; and between the two generations there was almost as little in common, as between the people of two different countries. It was not by looking at the particular measures which Elizabeth had adopted, but by looking at the great general principles of her government, that those who followed her were likely to learn the art of managing intractable subjects... If, instead of searching the records of her reign for precedents, which might seem to vindicate the mutilation of Prynne, and the imprisonment of Eliot, the Stuarts had attempted to discover the fundamental

rules which guided her conduct in all her dealings with her people, they would have perceived that their policy was then most unlike to hers, when to a superficial observer it would have seemed most to resemble hers.

Firm, haughty, sometimes unjust and cruel, in her proceedings towards individuals or towards small parties, she avoided with care, or retracted with speed, every measure which seemed likely to alienate the great mass of the people. She gained more honor and more love by the manner in which she repaired her errors, than she would have gained by never committing errors.

If such a man as Charles the First had been in her place when the whole nation was crying out against the monopolies, he would have refused all redress. He would have dissolved the Parliament, and imprisoned the most popular members. He would have called another Parliament. He would have given some vague and delusive promises of relief in return for subsidies... When entreated to fulfil his promises, he would have again dissolved the Parliament, and again imprisoned his leading opponents. The country would have become more agitated than before. The next House of Commons would have been more unmanageable than that which preceded it. The tyrant would have agreed to all that the nation demanded. He would have solemnly ratified an act abolishing monopolies for ever... He would have received a large supply in return for this concession; and within half a year new patents, more oppressive than those which had been cancelled, would have been issued by scores. Such was the policy which brought the heir of a long line of kings, in early youth the darling of his countrymen, to a prison and a scaffold.

Elizabeth, before the House of Commons could address her, took out of their mouths the words which they were about to utter in the name of the nation. Her promises went beyond their desires. Her performance followed close upon her promise... She did not treat the nation as an adverse party, as a party which had an interest opposed to hers, as a party to which she was to grant as few advantages as possible, and from which she was to extort as much money as possible. Her benefits were given, not sold; and, when once given, they were never withdrawn. She gave them, too, with a frankness, an effusion of heart, a princely dignity, a motherly tenderness, which enhanced their value... They were received by the sturdy country gentlemen who had come up to Westminster full of resentment, with tears of joy, and shouts of "God save the Queen!"

Charles the First gave up half the prerogatives of his crown to the Commons, and the Commons sent him in return the Grand Remonstrance.

Macaulay.

JAMES I.

JAMES I., who was destined to become the undisputed sovereign of that country in which his mother had perished by the axe of the executioner, was placed during his early life in a position from which probably few princes could have escaped without serious moral detriment... The son of parents, one of whom stood charged with procuring the death of the other, and himself in the circumstances of his birth connected with the terrible tragedy which led to this catastrophe, he found himself, on attaining to years of reason, reigning as the usurper of his mother's throne, opposed by all the most uncompromising supporters of royal authority, and sustained only by the league of nobles and burghers who had succeeded in subverting that authority... Under the tutelage of one great and ambitious noble after the other, the young king for some time served but to grace and legalise with the royal symbol of his name the triumph of rival factions... Compelled to employ with reference to his mother the formal language of anxious affection, while virtually proclaiming her guilt by the grounds of his tenure of her seat, he had to play the double part of the dutiful son imploring her release from her English prison, and of the rival claimant of the crown, endeavoring by every politic device to prevent her return to Scotland... Of such a training, favoritism and dissimulation were the natural fruits. As death — generally a violent one — removed one by one the great nobles who had been the principal agents in dethroning Mary and crowning James, that prince succeeded gradually in regaining a portion of the royal authority, which he at once threw into the hands of unworthy favorites... Educated by great Protestant scholars in the cumbrous learning of the century, James soon added to the theological pedantry of a Protestant controversialist the affectation of a wise legislator and astute politician. He has been called a "learned fool," and his lucubrations on government and royal authority, when we consider the position in which he was practically placed, certainly entitle him to the epithet... Royal despotism seems to have possessed for him all the attraction of forbidden fruit, and the mortifications which he was constantly compelled to undergo from insolent nobles and presuming preachers, appear to have had only the effect of impressing more strongly on his mind a sense

of the theoretical irresponsibility of the crown. His chimerical design was no other than to subvert the constitution of England, and to establish in its place a despotic monarchy... A dissembler by nature and by long habit, he dissembled badly, and only succeeded in destroying all confidence in his most solemn assurances. With all his boasted state-craft, he was never able to conceal his projects until a favorable moment for their execution; and by the pompous language with which he heralded them, called forth an opposition which stifled them in the birth... He was a coward, both morally and physically; and this fact exercised a material influence on the character of the contest during his life. His vanity led him continually to assume to himself in words a sovereign power entirely inconsistent with the constitution, and accommodated to some theory of his own brain; while the same love of *seeming* power induced him frequently to interfere with the privileges of the House of Commons, and when prompted by his necessities to have recourse to various illegal means of raising money: but, when called to account for this language and these proceedings, he gave way, not as Elizabeth, but in a manner congenial with his own spirit; a great deal of bluster was always followed by an agony of terror and humiliation.

Sanford.

CHARLES I.

THE civil wars of England in the reign of Charles I. must always form an interesting portion of our history. Whether it be regarded as the evidence of the national character when roused to arms in defence of its rights, or as the period when the sovereign power received its first serious check, and the dawn of constitutional liberty became apparent, that struggle between parliament and king must ever remain memorable.

It unfortunately happened for Charles I. that he had to the full as high and exalting a notion of the royal prerogative as either his father or Elizabeth, while he had to deal with an entirely different state of public opinion. From the very commencement of his reign symptoms of misunderstanding evidenced themselves between the king and the Lower House: for while the latter were aiming at reforms and indeed at changes scarcely compatible with monarchical government, the efforts of the former were as unremittingly directed to the preservation of

the sovereign power in precisely the same stretch of authority as had been exercised by his predecessors. Charles regarded it as a sacred duty to transmit this power without alteration or curtailment to his successor.

Charles, however, consented to many changes introduced by the parliament, with the view of promoting sentiments of goodwill, but there seemed no progress towards feelings of cordiality or union between the king and the senate; and the latter refusing to vote subsidies or supplies, the levying of the tax called "ship-money" was ordered by Charles without the consent of parliament, as a means of providing for the exigencies of the state, and even the expenses of the royal household... And now the Commonwealth men — the Hampdens, the Pyms, the Cromwells, and the Martins, — began to throw off all restraint or disguise: sentiments and reasonings entirely new in England were boldly uttered. It was affirmed that "the office of sovereignty was forfeitable," "that Charles was unworthy to be king of England," and that "the happiness of the kingdom did not depend on the king, nor any of that stock."

In January, 1641, Charles having impeached five members of the House of Commons of treason, a sergeant-at-arms demanded to take them into his custody; but the House refused, and passed a vote which declared that no member of the Commons could be arrested without their consent. Incensed at such an indignity, the king at once determined to proceed to the House himself and personally demand the apprehension of the five members whom he had accused ... "On a hasty knock," says D'Israeli, "the door of the Commons was thrown open, announcing the arrival of their extraordinary visitor. Charles entered; solely accompanied by his nephew the Palsgrave. Immediately uncovering himself, the members stood up uncovered. The king took the speaker's chair 'by his leave.' He stood some time glancing around, seemingly perplexed at the multitude of faces, and then proceeded to address them... No king, he said, that ever was in England should be more careful of their privileges; but in case of treason, he held that no person hath a privilege. On the word of a king he declared that he intended no force, but would proceed against those whom he sought in a legal and fair way, according to the laws and statutes of the realm, to which all innocent men would cheerfully submit. He now called on the impeached members by their names. No one answered. Turning to the speaker, he inquired whether they were in the House? ... But that official, kneeling to the king, desired the sovereign to excuse his answer, 'for in this place I have neither eyes to see

nor tongue to speak, but as the House is pleased to direct me, whose servant I am here.' The king told him that he thought him right, and that his own eyes were as good as his. 'I see the birds are flown!' He concluded by insisting that the accused members must be sent to him, or he must take his own course."

After this the breach between Charles and the parliament grew more and more irreparable. The accused members, who had fled into the city, represented that the king had come down to invade the House with armed men, and that his attendants awaited only the word, to proceed to do violence to the members, or indeed to slay them in the senate-house. The populace, inflamed by their speeches, proposed to conduct the five members in grand triumph to the House, which was accordingly done amidst the greatest tumult and uproar.

The Commonwealth men had now virtually deprived the king of his sceptre—the next step was to endeavor to wrest the sword from his hands. They declared that their fears and jealousies had so multiplied on them that it was necessary for them to dispose of the whole military force of the kingdom. The Committee which had the introducing of this declaration to the notice of Charles, in order to procure his consent to the arrangement, found that though deserted he was not dejected or pusillanimous... "What would you have?" said the king. "Have I violated your laws? Have any of my people been transported with fear and apprehension? All this considered, there is a judgment from heaven upon this nation if these distractions continue" ... The earl of Pembroke pressed the king to compromise the matter by granting the militia for a time. Charles suddenly exclaimed,—"By heaven! not for an hour. You have asked that of me in this which was never asked of a king, and with which I will not trust my wife and children!"

CIVIL WAR OF 1642.

THE duplicity of Charles made his old enemies irreconcileable, drove back into the ranks of the disaffected a crowd of moderate men, who were in the very act of coming over to his side, and so cruelly mortified his best friends, that they for a time stood aloof in silent shame and resentment... Now, however, the constitutional Royalists were forced to make their choice between two dangers; and they thought it their duty rather to rally round a prince whose past conduct they condemned, and whose words inspired them with little con-

fidence, than to suffer the regal office to be degraded, and the polity of the realm to be entirely remodelled. With such feelings, many men whose virtues and abilities would have done honor to any cause, ranged themselves on the side of the King.

In August, 1642, the sword was at length drawn; and soon in almost every shire of the kingdom two hostile factions appeared in arms against each other. It is not easy to say which of the contending parties was at first the more formidable... The Houses commanded London and the counties round London, the fleet, the navigation of the Thames, and most of the large towns and seaports. They had at their disposal almost all the military stores of the kingdom, and were able to raise duties, both on goods imported from foreign countries, and on some important products of domestic industry. ...The King was ill provided with artillery and ammunition. The taxes which he laid on the rural districts occupied by his troops, produced, it is probable, a sum far less than that which the Parliament drew from the city of London alone...He relied, indeed, chiefly for pecuniary aid on the munificence of his opulent adherents. Many of these mortgaged their land, pawned their jewels, and broke up their silver chargers and christening bowls, in order to assist him...But experience has fully proved that the voluntary liberality of individuals, even in times of the greatest excitement, is a poor financial resource when compared with severe and methodical taxation, which presses on the willing and unwilling alike.

When the war had lasted a year, the advantage was decidedly with the Royalists. They were victorious both in the western and in the northern counties. They had wrested Bristol, the second city in the kingdom, from the Parliament. They had won several battles, and had not sustained a single serious or ignominious defeat... Among the Roundheads, adversity had begun to produce dissension and discontent. The Parliament was kept in alarm, sometimes by plots, and sometimes by riots. It was thought necessary to fortify London against the royal army, and to hang some disaffected citizens at their own doors... Several of the most distinguished peers who had hitherto remained at Westminster, fled to the court at Oxford; nor can it be doubted that, if the operations of the Cavaliers had, at this season, been directed by a sagacious mind, Charles would have been led in triumph to Whitehall.

The events of the year 1644 turned the scale. In the south, where Essex held the command, the parliamentary forces underwent a succession of shameful disasters; but in the north

the victory of Marston Moor fully compensated for all that had been lost elsewhere... That victory was not a more serious blow to the Royalists than to the party which had hitherto been dominant at Westminster, for it was notorious that the day, disgracefully lost by the Presbyterians, had been retrieved by the energy of Cromwell, and by the steady valor of the warriors whom he had trained... These events produced the Self-denying Ordinance, and the new model of the army. Under decorous pretexts, and with every mark of respect, Essex, and most of those who had held high posts under him, were removed; and the conduct of the war was intrusted to very different hands... Fairfax, a brave soldier, but of mean understanding and irresolute temper, was the nominal Lord General of the forces; but Cromwell was their real head. Cromwell made haste to organise the whole army on the same principles on which he had organised his own regiment. As soon as this process was complete, the event of the war was decided... The Cavaliers had now to encounter natural courage equal to their own, enthusiasm stronger than their own, and discipline such as was utterly wanting to them. It soon became a proverb, that the soldiers of Fairfax and Cromwell were men of a different breed from the soldiers of Essex... At Naseby took place the first great encounter between the Royalists and the remodelled army of the Houses. The victory of the Roundheads was complete and decisive. It was followed by other triumphs in rapid succession... In a few months the authority of the Parliament was fully established over the whole kingdom. Charles fled to the Scots, and was by them, in a manner which did not much exalt their national character, delivered up to his English subjects.

Macaulay.



SIR WALTER RALEIGH:
THE ADVENTURER, COURTIER, AND SCHOLAR.

IN Raleigh's mighty genius there lies an unsuspected disposition, which requires explanation. From his earliest days, probably by his early reading of the romantic incidents of the first Spanish adventurers in the New World, he himself betrayed the genius of an *adventurer*, which prevailed in his character to the latest; and it often involved him in mean artifices and petty deceptions, which appear like folly in the wisdom of a sage

like inaptitude in the profound views of a politician, like cowardice in the magnanimity of a hero ; and degrade by their littleness the grandeur of a character which was closed by a splendid death, worthy the life of the wisest and greatest of mankind.

The sunshine of his days was in the reign of Elizabeth. From a boy, he was always dreaming of romantic conquests. Born in an age of heroism, and formed by nature for the chivalric gallantry of the court of a maiden queen, from the moment he with such infinite art cast his rich mantle over the miry spot, his life was a progress of glory ... All about Raleigh was as splendid as the dress he wore : but Elizabeth, although her eyes loved to dwell on men of noble mien, was too penurious of reward to grant them any other privilege than that of making their own fortunes by sea or land. She listened with pleasure to the glowing projects of her hero ; but the spirit which could have conquered the world was only permitted to lay his achievements, as so many toys, at the feet of his sovereign.

The name of Raleigh stands highest among the statesmen of England who advanced the colonisation of the United States. No Englishman of his age possessed so various or so extraordinary qualities ... Courage which was never daunted, mild self-possession, and fertility of invention, insured him glory in the profession of arms ; and his services in the conquest of Cadiz, or the capture of Fayal, were alone sufficient to establish his fame as a gallant and successful commander. In every danger his life was distinguished by valor, and his death was ennobled by true magnanimity.

He was not only admirable in active life as a soldier, he was an accomplished scholar. No statesman in retirement ever expressed the charm of tranquil leisure more beautifully than Raleigh ; and it was not entirely with the language of grateful friendship that Spenser described his "sweet verse as sprinkled with nectar," and rivalling the melodies of the "summer's nightingale" ... When an unjust verdict,—contrary to probability and the evidence, "against law and against equity,"—on a charge which seems to have been a pure invention, left him to languish for years in prison, with the sentence of death suspended over his head, his active genius plunged into the depths of erudition, and he who had been a soldier, a courtier, and a seaman, now became the elaborate author of a learned history of the world.

His career as a statesman was honorable. In his public policy he was thoroughly an English patriot, jealous of the honor, the prosperity, and the advancement of his country ;

the inexorable antagonist of the pretensions of Spain. In parliament he defended the freedom of domestic industry... When, by the operation of unequal laws, taxation was a burden upon industry rather than wealth, he argued for a change; himself possessed of a lucrative monopoly, he gave his voice for the repeal of all monopolies; and while he pertinaciously used his influence with his sovereign to mitigate the severity of the judgments against the nonconformists, as a legislator he resisted the sweeping enactment of persecuting laws.

In the career of discovery his perseverance was never baffled by losses. He joined in the risks of his uncle Gilbert's expedition, contributed to the discoveries of Davis in the northwest, and himself personally explored "the insular regions and broken world" of Guiana... The sincerity of his belief in the wealth of the latter country has been unreasonably questioned. If Elizabeth had hoped for a hyperborean Peru in the arctic seas of America, why might not Raleigh expect to find the city of gold on the banks of the Orinoco?... His lavish efforts in colonising the soil of our republic, his sagacity, which enjoined a settlement within the Chesapeake Bay, the publications of Hariot and Hakluyt, which he countenanced, if followed by losses to himself, diffused over England a knowledge of America, as well as an interest in its destinies, and sowed the seeds, of which the fruits were to ripen during his lifetime, though not for *him*.

Raleigh had suffered from palsy before his last expedition. He returned broken-hearted by the defeat of his hopes, by the decay of his health, and by the death of his eldest son. What shall be said of a king who would open to an aged paralytic no other hope of liberty but through success in the discovery of mines in Guiana?... What shall be said of a monarch who could, at that time, under a sentence which was originally unjust, and which had slumbered for fifteen years, order the execution of the decrepit man, whose genius and valor shone brilliantly through the ravages of physical decay, and whose English heart, within a palsied frame, still beat with an undying love for his country?

Bancroft.

THE LAST HOURS OF SIR WALTER RALEIGH.

THE close of the life of Sir Walter Raleigh was as extraordinary as many parts of his varied history: the promptitude and sprightliness of his genius, his carelessness of life, and the equanimity of this great spirit in quitting the world, can only

be paralleled by a few other heroes and sages. Raleigh was both ! ... But it is not simply his dignified yet active conduct on the scaffold, nor his admirable speech on that occasion, circumstances by which many great men are judged, when their energies are excited for a moment to act so great a part, before the eyes of the world assembled at their feet; it is not these only which claim our notice.

We may pause with admiration on the real grandeur of Raleigh's character, not from a single circumstance, however great, but from a tissue of continued little incidents, which occurred from the moment of his condemnation till he laid his head on the block ... Contemporary writers in their letters have set down every fresh incident, and eagerly caught up his sense, his wit, and, what is more delightful, those marks of the natural cheerfulness of his invariable presence of mind: nor could these have arisen from any affectation or parade, for we shall see that they served him even in his last tender farewell to his lady, and on many unpremeditated occasions.

Raleigh one morning was taken out of his bed, in a fit of fever, and unexpectedly hurried, not to his trial, but to a sentence of death. The story is well known:—Pleading with “a voice grown weak by sickness and an ague he had at that instant on him,” he used every means to avert his fate: he did, therefore, value the life he could so easily part with. His judges, at least, respected their state criminal, and they addressed him in a tone far different from that which he had fifteen years before listened to from Coke ... Yelverton, the attorney-general, said, “Sir Walter Raleigh hath been as a star at which the world has gazed; but stars may fall, nay, they must fall, when they trouble the sphere where they abide.” And the lord chief-justice noticed Raleigh's great work:—“I know that you have been valiant and wise, and I doubt not but you retain both these virtues, for now you shall have occasion to use them. Your book is an admirable work; I would give you counsel, but I know you can apply unto yourself far better than I am able to give you.” But the judge ended with saying, “execution is granted.” It was stifling Raleigh with roses! the heroic sage felt as if listening to fame from the voice of death.

He declared, that now being old, sickly, and in disgrace, and “certain were he allowed to live, to go to it again, life was wearisome to him, and all he entreated was to have leave to speak freely at his farewell, to satisfy the world that he was ever loyal to the king, and a true lover of the commonwealth; for this he would seal with his blood.”

Raleigh, on his return to his prison, while some were deplored his fate, observed, that "the world itself is but a larger prison, out of which some are daily selected for execution."

The last night of his existence was occupied by writing what the letter-writer calls "a remembrancer to be left with his lady," to acquaint the world with his sentiments, should he be denied their delivery from the scaffold, as he had been at the bar of the King's Bench. His lady visited him that night, and amidst her tears acquainted him, that she had obtained the favor of disposing of his body; to which he answered smiling, "It is well, Bess, that thou mayst dispose of that, dead, which thou hadst not always the disposing of when alive" ... At midnight he entreated her to leave him. It must have been then, that, with unshaken fortitude, Raleigh sat down to compose those verses on his death, of which the most appropriate may be repeated:—

"Even such is Time, that takes on trust
Our youth, our joys, our all we have,
And pays us but with age and dust;
Who in the dark and silent grave,
When we have wandered all our ways,
Shuts up the story of our days!"

Raleigh's cheerfulness was so remarkable, and his fearlessness of death so marked, that the Dean of Westminster, who attended him, at first wondering at the hero, reprimanded the lightness of his manner; but Raleigh gave God thanks that he had never feared death, for it was but an opinion and an imagination; that as for the manner of death, he would rather die so than of a burning fever; and that some might have made shows outwardly, but he felt the joy within ... The Dean says, that he made no more of his death than if he had been to take a journey: "Not," said he, "but that I am a great sinner, for I have been a soldier, a seaman, and a courtier." The writer of a manuscript letter tells us, that the Dean declared he died not only religiously, but he found him to be a man as ready and as able to give, as to take, instruction.

On the morning of his death he smoked, as usual, his favorite tobacco, and when they brought him a cup of excellent sack, being asked how he liked it, Raleigh answered, "As the fellow, that, drinking of St. Giles's bowl, as he went to Tyburn said, 'that was good drink if a man might tarry by it'" ... The day before, in passing from Westminster Hall to the Gate-house, his eye had caught Sir Hugh Beeston in the throng, and calling on him, Raleigh requested that he would see him die to-morrow. Sir Hugh, to secure himself a seat on

the scaffold, had provided himself with a letter to the sheriff, which was not read at the time, and Sir Walter found his friend thrust by, lamenting that he could not get there. "Farewell!" exclaimed Raleigh, "I know not what shift you will make, but I am sure to have a place" ... In going from the prison to the scaffold, among others who were pressing hard to see him, one old man, whose head was bald, came so far forward, that Raleigh noticed him, and asked "whether he would have aught of him?" The old man answered, "Nothing but to see him, and to pray God for him." Raleigh replied, "I thank thee, good friend, and I am sorry I have no better thing to return thee for thy good will." Observing his bald head, he continued, "but take this night-cap (which was a very rich wrought one that he wore), for thou hast more need of it now than I."

He ascended the scaffold with the same cheerfulness as he had passed to it; and observing the lords seated at a distance, some at windows, he requested they would approach him, as he wished that they should all witness what he had to say. When he finished, he requested Lord Arundel that the king would not suffer any libels to defame him after death — "And now I have a long journey to go, and must take my leave" ... He embraced all the lords and other friends with such courtly compliments, as if he had met them at some feast," says a letter-writer. Having taken off his gown, he called to the headsman to show him the axe, which not being instantly done, he repeated, "I prithee let me see it, dost thou think that I am afraid of it?" ... He passed the edge lightly over his finger, and smiling, observed to the sheriff, "This is a sharp medicine, but a sound cure for all diseases," and kissing it, laid it down. After this he went to three several corners of the scaffold, and kneeling down, desired all the people to pray for him, and recited a long prayer to himself... When he began to fit himself for the block, he first laid himself down to try how the block fitted him; after rising up, the executioner kneeled down to ask his forgiveness, which Raleigh with an embrace gave, but entreated him not to strike till he gave a token by lifting up his hand, "*and then, fear not, but strike home!*" ... When he laid his head down to receive the stroke, the executioner desired him to lay his face towards the east. "It was no great matter which way a man's head stood, so that the heart lay right," said Raleigh; but these were not his last words. He was once more to speak in this world with the same intrepidity he had lived in it: for, having lain some minutes on the block in prayer, he gave the signal; but the executioner, either un-

mindful, or in fear, failed to strike, and Raleigh, after once or twice putting forth his hands, was compelled to ask him, "Why dost thou not strike? Strike! man!" In two blows he was beheaded; but from the first, his body never shrunk from the spot, by any discomposure of his posture, which, like his mind, was immovable.

"In all the time he was upon the scaffold, and before," says one of the manuscript letter-writers, "there appeared not the least alteration in him, either in his voice or countenance; but he seemed as free from all manner of apprehension as if he had come thither rather to be a spectator than a sufferer; nay, the beholders seemed much more sensible than did he, so that he hath purchased here in the opinion of men such honor and reputation, as it is thought his greatest enemies are they that are most sorrowful for his death, which they see is like to turn so much to his advantage."

I. D'Israeli.

OLIVER CROMWELL.

In the age which directly followed that of the Puritans, their cause or themselves were little likely to have justice done. Charles II. and his Rochesters were not the kind of men you would set to judge what the worth or meaning of such men might have been. That there could be any faith or truth in the life of a man, was what these poor Rochesters and the age they ushered in had forgotten... Puritanism was hung on gibbets, like the bones of the leading Puritans. We have our *Habeas Corpus*, our free representation of the people;—acknowledgment wide as the world, that all men are, or else must, shall, and will become what we call *free* men;—men with their life grounded on reality and justice! This in part, and much besides this, was the work of the Puritans.

And, indeed, as these things became gradually manifest, the character of the Puritans began to clear itself. Their memories were, one after another, taken *down* from the gibbet; nay a certain portion of them are now, in these days, as good as canonised. Eliot, Hampden, Pym, nay Ludlow, Hutchison, Vane himself are admitted to be a kind of heroes; political conscript fathers, to whom in no small degree we owe what makes us a free England... They are indeed very noble men these; step along in their stately way, with their measured euphuisms, philosophies, parliamentary eloquencies, ship moneys, monarchies of man; a most constitutional, unblamable, dignified set of men. But the heart remains cold before them; the fancy

alone endeavors to get up some worship of them. What man's heart does, in reality, break forth into any fire of brotherly love for these men? One leaves all these nobilities standing in their niches of honor; the rugged outcast Cromwell, he is the man of them all in whom one finds human stuff.

We are told, it was a sorrowful thing to consider that the foundation of our English liberties should have been laid by superstition, by men demanding chiefly of all, that they should have liberty to *worship* in their own way. Liberty to *tax* themselves; that was the thing they should have demanded! Liberty to *tax* oneself? No century, I think, but a rather barren one, would have fixed on that as the first right of man... I should say, on the contrary, a just man will generally have better cause than *money* in what shape soever, before deciding to revolt against his government. Taxgatherer? Money? He will say, "Take my money, since you *can*, and it is so desirable to you; take it, — and take *yourself* away with it; and leave me alone to my work here. I am still here, after all the money you have taken from me!"...But if they come to him, and say, "Acknowledge a lie; pretend to say you are worshipping God when you are not doing it: believe not the thing that *you* found true, but the thing that I find, or pretend to find true!" He will answer: "No; by God's help, no! You may take my purse; but I cannot have my moral self annihilated. The purse is any highwayman's who might meet me with a loaded pistol; but the self is mine and God my Maker's; it is not yours; and I will resist you to the death and revolt against you, and, on the whole, front all manner of extremities, accusations, and confusions, in defence of that!"...Really this is the one reason which could justify the revolting of the Puritans. It has been the soul of all just revolts among men. Not hunger alone produced even the French Revolution. No, but the feeling of the insupportable all-pervading *falsehood* which had now embodied itself in hunger.

What little we know of Cromwell's earlier obscure years, betokens all, an earnest, affectionate, sincere kind of man. An excitable deep-feeling nature, in such rugged stubborn strength as his, is not the symptom of falsehood; it is the symptom and promise of quite other than falsehood!

The young Oliver is sent to study law; falls, is said to have fallen, for a little period, into some of the dissipations of youth; but if so, speedily repents, abandons all this: not much above twenty, he is married, settled as an altogether grave and quiet man... "He pays back what money he had won at gambling," says the story; he does not think any gain of that kind could

be really *his*. It is very interesting, very natural, this "conversion" as they well name it; this awakening of a great true soul from the worldly slough, to see into the awful truth of things; to see that time and its shows all rested on eternity, and this poor earth of ours was the threshold either of heaven or of hell!... Oliver's life at St. Ives and Ely, as a sober industrious farmer, is it not altogether as that of a true and devout man? He has renounced the world and its ways; *its* prizes are not the thing that can enrich him. He tills the earth; he reads his bible; daily assembles his servants round him to worship God...He comforts persecuted ministers, is fond of preachers; nay, can himself preach; exhorts his neighbours to be wise, to redeem the time. In all this what "hypocrisy," "ambition," "cant" or other falsity? The man's hopes, I do believe, were fixed on the other higher world; his aim to get well *thither*, by walking well through his humble course in *this* world. He courts no notice; what could notice here do for him? "ever in his great task-master's eye."

His successes in parliament, his successes through the war, are honest successes of a brave man; who has more resolution in the heart of him, more light in the head of him than other men. His prayers to God, his spoken thanks to the God of victory, who had preserved him safe and carried him forward so far through the furious clash of a world all set in conflict, through desperate-looking envelopments at Dunbar; through the death hail of so many battles; mercy after mercy to the "crowning mercy of Worcester fight!" all this is good and genuine for a deep-hearted Calvinistic Cromwell.

Nor will his participation in the king's death involve him in condemnation with us. It is a stern business killing of a king. But it is now pretty generally admitted that the parliament, having vanquished Charles I., had no way of making any tenable arrangement with him... The large Presbyterian party, apprehensive now of the Independents, were most anxious to do so; anxious indeed as for their own existence, but it could not be. The unhappy Charles, in those final Hampton Court negotiations, shows himself a man fatally incapable of being dealt with. A man, who, once for all, could not and would not *understand*, whose thought did not in any measure represent to him the real fact of the matter; nay worse, whose *word* did not at all represent his thought... We may say this of him without cruelty, with deep pity rather; but it is true and undeniable. Forsaken there of all but the *name* of kingship, he still finding himself treated with outward respect as a king, fancied that he might play off party against party, and

smuggle himself into his old power by deceiving both. Alas, they both discovered that he was deceiving them ... A man whose *word* will not inform you at all what he means and will do, is not a man you can bargain with. You must get out of that man's way, or put him out of yours! The Presbyterians, in their despair, were still for believing Charles, though found false, unbelievable, again and again. Not so, Cromwell: "For all our fighting," says he, "we are to have a little bit of paper!" No!

In fact, everywhere we have to note the decisive practical *eye* of this man; how he drives towards the practical and practicable; has a genuine insight into what *is* fact: such an intellect does not belong to a false man; the false man sees false showy plausibilities, expediencies; the true man is needed to discern even practical truth.

The successes of Cromwell seem to me a very natural thing. Since he was not shot in battle, they were an inevitable thing. That such a man with the eye to see with, the heart to dare, should advance from post to post, from victory to victory, till the Huntingdon farmer became, by whatever name you might call him, the acknowledged strongest man in England, virtually the king of England, requires no magic to explain it!

Carlyle.



ADMIRAL BLAKE.

THE life of Robert Blake, general of the land forces and admiral of the fleets of England, during the rule of Cromwell, affords some fine examples illustrative of the daring and decision of the English character when called out by the exigencies of the naval service. Possessed of a most exalted opinion of the prowess and pretensions of Englishmen, he seems to have considered no odds of numbers or disadvantages of position worthy of consideration where his country's honor was concerned, and he supported the Lord Protector most efficiently in his avowed resolution of "making the name of Englishmen as great as ever that of Roman had been" ... At the mature age of fifty years this extraordinary man, after having proved himself a good soldier, during the unhappy strife of the civil wars, by his successful defence of the town of Taunton against the royal forces, first took the command of our fleets, leading them to victory, and winning fresh laurels upon their own element from his world-known opponents, Tromp, de Ruyter, and de Witt.

Here his want of experience seems, although it may sound paradoxical, to have been of great service to him: he followed

the light of his own genius only, and was soon seen to have all the courage, the conduct, and the precipitancy of a good sea officer. Clarendon says of him, "that he was the first man that declined the old track, and made it apparent that the sciences might be attained in less time than was imagined. He was the first man that brought ships to contemn castles on shore, which had ever been thought very formidable, but were discovered by him to make a noise only, and to frighten those who could rarely be hurt by them. He was the first that infused that proportion of courage into seamen by making them see by experience what mighty things they could do if they were resolved; and who taught them to fight in fire as well as upon water; and though he has been very well imitated and followed, was the first that gave the example of that kind of naval courage and bold and resolute achievement."

Such is the royalist historian's evidence of this great man, whose impetuous courage, verging on temerity in many instances, only escapes that judgment by the extraordinary success that attended his movements.

One of such instances occurred in his first encounter with Tromp. The states of Holland having arrived during our civil troubles at the height of naval power without opposition, and without competition, seem to have sought for and provoked the war of 1652, solely for the purpose of combating the long-maintained supremacy of the English flag in the narrow seas, a supremacy enforced against all foreigners almost down to our times, by compelling them to strike their colors on meeting our flag. Hostilities had not yet been declared, when Tromp, with a fleet of forty-five men-of-war, appeared in the Downs, where Blake was lying... The latter, who had but twenty ships under his orders, upon the approach of the Dutch admiral, fired three single shots across his bows to require that he should, by striking his colors, show that respect to the flag which had been always customary in what were considered the seas under British dominion. Tromp answered with a broadside, at the same time hanging out the red flag under the Dutch colors, as the signal for a general engagement. Blake, in a vehement passion, and curling his whiskers, as the old writers say he used to do when angry, commanded his men to answer the Dutch in their kind, and for some time stood alone in his flag-ship against the whole force of the enemy, when the rest of the squadron coming up, the fight was continued from four in the afternoon until nine at night; the Dutch then retreating, and leaving two of their ships in his hands. Blake, in his public letter reporting the action, concludes by recapitulating his losses, and states:

"We have six men of ours slain and nine or ten desperately wounded, and twenty-four more not without danger. We have received about seventy great shot in our hull and masts, in our sails and rigging without number; being engaged with the whole body of the fleet for the space of four hours, and being the single mark at which they aimed." Such was the first of those sea fights in which Robert Blake nobly upheld the honor of the English flag against the most renowned admirals of Holland.

This action was quickly followed up by others, not only with the Dutch, but with the Barbary states and Spaniards, in which success seems invariably to have attended all his movements; but his last and crowning victory occurred on the 20th of April, 1657, a few months before his death; and this was the scene of Nelson's defeat 150 years afterwards.

Blake had received intelligence that the Spanish fleet lay at anchor in the Bay of Santa Cruz, in the island of Teneriffe, where they were protected by the castle and seven other forts, close under which they were able to ride at anchor. Nothing daunted by their apparently impregnable position, he determined to attack them, and with this object, ordered his second in command, with the largest ships, to occupy the attention of the land batteries, while he himself attacked the Spanish galleons. These, after a gallant resistance, were at length abandoned by their crews, though the least of them was larger than the largest of Blake's ships, and the forts and smaller vessels having been meantime silenced, the whole fleet was set on fire, the Spaniards sustaining a great loss in ships, money, men, and merchandise, while the English gained nothing but glory.

Clarendon says, "The whole action was so miraculous that all men who knew the place wondered that any sober man, with what courage soever endowed, would ever have undertaken it; and they could hardly persuade themselves to believe what they had done; whilst the Spaniards comforted themselves with the belief that they were devils and not men who had destroyed them in such a manner" ... So much the strong resolution of bold and courageous men can bring to pass, that no resistance and advantage of ground can disappoint them. It can hardly be imagined how small a loss the English sustained in this unparalleled action: not one ship being left behind, and the killed and wounded not exceeding 200 men, while the slaughter on board the Spanish ships and on shore was incredible.

Cromwell, on the receipt of the intelligence of this victory, communicated it to the parliament then sitting, by whom a public thanksgiving was ordered; a diamond ring was direct

to be sent to Blake, and the thanks of the House were conveyed to all the officers and seamen engaged.

This was almost his last exploit, and Blake only just survived to receive the honors and rewards voted to him by parliament. His anxiety, like that of our modern hero Collingwood, seems to have been once more to look upon his native land, but this was denied him ... "Leaving Cadiz," says Dixon, "and hoisting his pennon on his old flag-ship, the 'St. George,' Blake saw for the last time the spires and cupolas, the masts and towers before which he had kept his long and victorious vigils. 'I beseech God to strengthen him!' was the fervent prayer of the English resident at Lisbon as he departed on the homeward voyage. While the ships rolled through the tempestuous waters of the Bay of Biscay, he grew every day worse and worse. Some gleams of the old spirit broke forth as they approached the latitude of England. He inquired often and anxiously if the white cliffs were yet in sight. He longed to behold the swelling downs, the free cities, the goodly churches of his native land, but he was now dying beyond all doubt ... Many of his favorite officers silently and mournfully crowded round his bed, anxious to catch the last tones of a voice which had so often called them to glory and victory. Others stood at the poop and forecastle, eagerly examining every speck and line on the horizon, in hope of being the first to catch the welcome glimpse of land. Though they were coming home crowned with laurels, gloom and pain were on every face ... At last the 'Lizard' was announced; shortly afterwards the bold cliffs and bare hills of Cornwall loomed out grandly in the distance, but it was now too late for the dying hero. He had sent for the captain and other great officers of his fleet to bid them farewell, and while they were yet in his cabin the undulating hills of Devonshire, glowing in the full tints of early autumn, came full in view. As the ships rounded Rance Head, the spires and masts of Plymouth, the woody height of Mount Edgecumbe, the low island of St. Nicholas, the rocky steepes of the Hoe, Mount Batten, the citadel, the many picturesque and familiar features of the magnificent harbor, rose one by one in sight ... But the eyes which had so yearned to behold this scene once more were at that very instant closing in death. Foremost of the victorious squadron, the 'St. George' rode with its precious burden into the Sound; and just as it came in full view of the eager thousands crowding the beach, the pier-heads, the walls of the citadel, or darting countless boats over the smooth waters between St. Nicholas and the docks, ready to catch the first glimpse of the hero of

Santa Cruz, and salute him with a true English welcome, he, in his silent cabin, in the midst of his lion-hearted comrades, now sobbing like little children, yielded up his soul to God."

Deeds of Naval Daring.

CHARACTER OF CHARLES II.

CHARLES II., in the station of a private gentleman, would have been universally liked. Few men had such captivating manners, and no man ever united wit and good nature in society to a greater degree. He had a natural kindness of temper, which influenced his moral conduct, and prevented him from becoming an oppressor... His brother, the Duke of York, and his son, the Duke of Monmouth, had equal reasons to be grateful for his indulgence. Though the one was the cause of all his troubles, and the other helped to foment them, his behaviour was in almost every instance kind and affectionate... But the cares and duties of a throne were fitted to expose the defects of Charles in the most glaring light. It was evident that he was indolent, mean, false, unprincipled and selfish. The most important affairs could not make him active; the most solemn engagements, true; the most shameful proposals could not rouse his pride, nor the affection of a great people induce him to sacrifice the least or lowest of his pleasures.

He wasted a capacity for which the mighty cares of government afforded ample scope, in the sciences of chemistry and mechanics which he could not forward; and he lowered the character of the country abroad that he might establish a despotism at home.

It is certain that adversity had not improved the character of Charles. Surrounded by his father's old friends, who had suffered from a popular revolution, he learnt to esteem his own authority too highly, and to regard with suspicion and aversion the inclinations of his people... The want of money and of consideration abroad, led him into a vagabond course of life, and obliged him to practise the arts of a courtier, when he ought to have maintained the dignity of a sovereign. While those immediately about him persuaded him that he was King of England by divine right, he could not go out of this narrow circle without encountering the rebuffs of Cardinal Mazarin or Don Lewis de Haro.

His residence in Scotland had disgusted him with religious fanaticism. He is said to have reconciled himself to the Church of Rome at Paris some years before the Restoration.

but however that may be, it is certain that the little religion he possessed was Roman Catholic.

The character of the Duke of York was essentially different from that of his brother. Charles was quick, fickle, and indolent; James was dull, obstinate, and busy: the king was indifferent about religion, the Duke was one of the greatest bigots that ever lived. The Duke of Buckingham described their characters very well in a few words by saying, "Charles could see things if he would, James would see things if he could."

The court of Charles II. carried the dissolution of morals to the greatest pitch. And the stage at that time united the profligacy of French with the coarseness of English manners. The king loved to practise, and was forward to encourage, the most unbounded licence in conversation as well as in conduct... The loosest jest and the most indecent words were admitted into polished society, and even disgraced the literature of the day. Nor was it found possible to import the gallantry and dissipation of other climates without some mixture of the darker vices. Sir John Denham and Lord Chesterfield have both been accused of murdering their wives by poison, and the latter is said to have added deeper horror to his crime by administering death in the cup of communion... These stories, whether true or false, could only have found belief in a profligate age. It seemed as if the domestic character of the nation was about to undergo an alarming change.

But the mass of English gentry did not follow the example of their sovereign; and he who examined beneath the surface would have found the soil rich in honor and virtue. The same age which produced the poetry of Rochester and the plays of Dryden, gave birth to the writings of South, Taylor, and Barrow. And whilst the wits of the court were ridiculing the epic poem of Milton, that sublime work was passing through the hands of thousands *, and obtaining for its author that better sort of immortality which is gained by uniting the sentiments of a good man with the inspiration of a great poet.

Lord John Russell.



TRIAL OF LORD RUSSELL: THE RYE-HOUSE PLOT.

On Friday, the 13th July, 1683, Lord Russell was placed within the bar of the Old Bailey, to take his trial for high treason.

* It is not true that Milton's poems were not popular at first: 1500 copies were sold in two years.

The clerk of the crown, having desired him to hold up his hand, proceeded to read the indictment, the substance of which was “for conspiring the death of the king, and consulting and agreeing to stir up insurrection, and to that end to seize the guards appointed for the preservation of the king’s person.”

Hereafter followed the examination of the witnesses, but with all their desire to conciliate the interests and pander to the suspicions of a king, although they gave some ground for the verdict pronounced against the noble defendant, that verdict has been reversed by the calmer judgment of posterity.

After Lord Russell’s incarceration, Lord Cavendish having sent him a proposition, by Sir James Forbes, to change clothes with him, and remain in prison, whilst he made his escape, he, in a smiling way, sent his thanks to him and said he would make no escape. He probably thought that flight would look like a confession of guilt, and might prejudice his associates, and injure the great cause to which his whole life had been devoted... He said he was very glad he had not fled, for he could not have lived from his children, and wife, and friends; that was all the happiness he saw in life.

When he spoke of his wife, the tears would sometimes come into his eyes, and he would suddenly change the discourse. Once, he said he wished she would give over beating every bush for his preservation, but when he considered that it would be some mitigation of her sorrow afterwards, to reflect she had left nothing undone, he acquiesced... He expressed great joy on the magnanimity of spirit he saw in her, and said that the parting with her was the greatest thing he had to do; for he had been afraid she would hardly be able to bear it. The concern about preserving him filled her mind at the time, but when that should be over, he feared the quickness of her spirit would act too powerfully within her.

On the evening before his execution, a little before he went to eat his supper, he said to Lady Russell, “Stay and sup with me, let us eat our last earthly food together.” He talked very cheerfully during supper on various subjects, and particularly of his two daughters... He mentioned several passages of dying men with great freedom of spirit, and when a note was sent to his wife, containing a new project for his preservation, he turned it into ridicule, in such a manner that those who were with him, and were not themselves able to contain their grief, were amazed. They could not conceive how his heart, naturally so tender, could resist the impression of their sorrow... In the day time he had bled at the nose, on which he said, “I shall not now let blood to divert this, that will be done to-morrow.” And when it rained

hard that night, he said, "Such a rain to-morrow will spoil a great show, which is a dull thing on a rainy day."

Before his wife left him, he took her by the hand and said, "This flesh you now feel, in a few hours must be cold." At ten o'clock she left him. He kissed her four or five times; and she so governed her sorrow, as not to add, by the sight of her distress, to the pain of separation ... Thus they parted, not with sobs and tears, but with a composed silence; the wife wishing to spare the feelings of the husband, and the husband of the wife, they both restrained the expression of a grief too great to be relieved by utterance.

When she was gone, he said, "Now the bitterness of death is past." And he then ran out into a long discourse concerning her, saying, there was a signal providence of God in giving him such a wife, where there was birth, fortune, great understanding, great religion, and great kindness to him; but that her carriage in his extremity was beyond all. He said that he was glad that she and his children were to lose nothing by his death; and it was a great comfort to him that he left his children in such a mother's hands, and that she had promised him to take care of herself for their sakes ... Then he spoke of his own situation, and said how great a change death made, and how wonderfully these new scenes would strike on a soul. He had heard how some that had been born blind, were struck when, by the couching of their cataracts, they saw; but what, he said, if the first thing they saw were the sun rising!

On the morrow, as he came down, he met Lord Cavendish, and took leave of him; but remembering something of importance, he went back and spoke to him with great earnestness. He pressed him anxiously to apply himself more to religion; and told him what great comfort and support he felt from it now in his extremity. Such was his last advice and farewell to his dearest friend ... He went into his coach with great cheerfulness. Dr. Tillotson and Dr. Burnet accompanied him. As they were going, he looked about him, and recognised several persons. Some he saw staring on him, who knew him and did not salute him: he said there was great joy in some, but that did not touch him so much as the tears he observed in the eyes of others; for that, he said, made him tender.

On arriving at the fatal block, he knelt down and prayed three or four minutes by himself. When that was done, he took off his coat and waistcoat. He had brought a night-cap in his pocket, fearing his servant might not get up to him.

"When he had lain down," says Burnet, "I once looked at him and saw no change in his looks; and though he was still

lifting up his hands, there was no trembling, though in the moment in which I looked, the executioner happened to be laying his axe to his neck to direct him to take aim. I thought it touched him, but I am sure he seemed not to mind it." The executioner, at two strokes, cut off his head. Thus died Lord William Russell, on the 21st of July, 1683, in the forty-fourth year of his age. Few men have deserved better of their country. Though not remarkable for very brilliant talents, he was a man of solid judgment; and was never led astray by any curious sophistry to confound the perceptions of right or wrong; to mistake slavery for duty; or to yield to power the homage which is due to virtue ... He was a warm friend not to liberty merely, but to English liberty; a decided enemy not only to regal encroachment, but to turbulent innovation. He was a good son, a good husband, a good father, and, like some others whom our own days have seen, united mildness of domestic affection with severity of public principle.

Lord John Russell.

EXECUTION OF SIR HENRY VANE (1662).

THE Convention Parliament had excepted Vane from the indemnity, on the king's promise that he should not suffer death. It was now resolved to bring him to trial; and he turned his trial into a triumph... Though "before supposed to be a timid man," he appeared before his judges with animated fearlessness. Instead of offering apologies for his career, he denied the imputation of treason with settled scorn, defended the right of Englishmen to be governed by successive representatives, and took glory to himself for actions which promoted the good of England and were sanctioned by Parliament, as the virtual sovereign of the realm... He spoke not for his life and estate, but for the honor of the martyrs to liberty that were in their graves, for the liberties of England, for the interest "of all posterity in time to come." He had asked for counsel. "Who," cried the solicitor, "will dare to speak for you, unless you can call down from the gibbet the heads of your fellow traitors?"... "I stand single," said Vane, "yet, being thus left alone, I am not afraid, in this great presence, to bear my witness to the glorious cause, nor to seal it with my blood." Such true magnanimity stimulated the vengeance of his enemies; "they clamored for his life"..."Certainly," wrote the king, "Sir Henry Vane is too dangerous a man to let live, if we can honestly put him out of the way." It was found he could not honestly put him out of the way; but still, the soli-

citor urged, "he must be made a sacrifice." "We know what to do with him," said the king's council.

The day before his execution, his friends were admitted to his prison ; and he cheered their drooping spirits by his own serene intrepidity, reasoning calmly on death and immortality. ...He reviewed his political career, from the day when he defended Anne Hutchinson, to his last struggle for English liberties, and could say, "I have not the least recoil in my heart as to matter or manner of what I have done" ... A friend spoke of prayer, that for the present the cup of death might be averted. "Why should we fear death ?" answered Vane, "I find it rather shrinks from me, than I from it." His children gathered round him, and he stooped to embrace them, mingling consolation with kisses. When his family had withdrawn, he declared his life to be willingly offered to confirm the wavering, and convince the ignorant. The cause of popular liberty still seemed to him a glorious cause. "I leave my life as a seal to the justness of the quarrel. Ten thousand deaths, rather than defile the charity of my conscience ; nor would I for ten thousand worlds resign the peace and satisfaction I have in my heart."

The plebeian, Hugh Peters, had been hanged ; Sir Henry Vane was to suffer on the block. The same cheerful resignation animated him on the day of his execution. As the procession moved through the streets, men from the windows and tops of houses expressed their sorrow, pouring out prayers for him as he passed by : and the people shouted aloud, "God go with you" ... Arrived on the scaffold, he was observable above all others by the intrepidity of his demeanor. Surveying the vast multitude with composure, he addressed them, and sought to awaken in their souls the love of English liberty. His voice was overpowered with the blast of trumpets. Finding he could not bear an audible testimony to his principles, he was not in the least disconcerted by the rudeness, but in the serenity of his manner continued to show with what calmness an honest patriot could die... With unbroken trust in Providence, he believed in the progress of civilisation : and while he reminded those around him, that "he had foretold the dark clouds which were coming thicker and thicker for a season," it was still "most clear to the eye of his faith," that a better day would dawn in the clouds... "Blessed be God," exclaimed he, as he bared his neck for the axe. "I have kept a conscience void of offence to this day, and have not deserted the righteous cause for which I suffer." That righteous cause was popular liberty ; in the history of

the world, he was the first martyr to the principle of the paramount power of the people ; and, as he had predicted, "his blood gained a voice to speak his innocence." *Bancroft.*



JAMES II.

CHARLES died, and his brother came to the throne ; but, though the person of the sovereign was changed, the love and awe with which the office was regarded were undiminished. Indeed, it seems that, of the two princes, James was, in spite of his religion, rather the favorite of the High Church party ... He had been specially singled out as the mark of the Whigs ; and this circumstance sufficed to make him the idol of the Tories. He called a Parliament. The loyal gentry of the counties, and the packed voters of the remodelled boroughs, gave him a Parliament such as England had not seen for a century, a Parliament beyond all comparison the most obsequious that ever sate under a prince of the House of Stuart ... One insurrectionary movement, indeed, took place in England, and another in Scotland. Both were put down with ease, and punished with tremendous severity. Even after that bloody circuit, which will never be forgotten while the English race exists in any part of the globe, no member of the House of Commons ventured to whisper the mildest censure on Jeffreys.

James, it is said, declared himself a supporter of toleration. If he violated the constitution, he at least violated it for one of the noblest ends that any statesman ever had in view.

If it can be shown that James did sincerely wish to establish perfect freedom of conscience, we shall think his conduct deserving of indulgence, if not of praise. We shall not be inclined to censure harshly even his illegal acts ... But it can be proved, we think, by the strongest evidence, that James had no such object in view ; and that, under the pretence of establishing perfect religious liberty, he was trying to establish the ascendancy and the exclusive dominion of the Church of Rome.

The Catholics lay under severe restraints in England. James wished to remove these restraints, and therefore he held a language favorable to liberty of conscience. But the whole history of his life proves that this was a mere pretence.

If he had pretended to be converted to the doctrines of toleration after his accession to the throne, some credit might have been due to him. But we know most certainly that, in 1679, and long after that year, James was a most bloody and re-

morseless persecutor... After 1679, he was placed at the head of the Government of Scotland. And what had been his conduct in that country? He had hunted down the scattered remnant of the Covenanters with a barbarity of which no other prince of modern times, Philip the Second excepted, had ever shown himself capable.

And what was the conduct of James at the very time when he was professing zeal for the rights of conscience? Was he not even then persecuting to the very best of his power? Was he not employing all his legal prerogatives, and many prerogatives which were not legal, for the purpose of forcing his subjects to conform to his creed? ... While he pretended to abhor the laws which precluded Dissenters from office, was he not himself dismissing from office his ablest, his most experienced, his most faithful servants, on account of their religious opinions? If James acted thus when he had the strongest motives to court his Protestant subjects, what course was he likely to follow when he had obtained from them all that he asked?

Macaulay's Essays.

JUDGE JEFFREYS.

THE roar of a great city disappointed of its revenge followed Jeffreys to the drawbridge of the Tower. His imprisonment was not strictly legal: but he at first accepted with thanks and blessings the protection which those dark walls, made famous by so many crimes and sorrows, afforded him against the fury of the multitude. Soon, however, he became sensible that his life was still in imminent peril... A disposition to triumph over the fallen has never been one of the besetting sins of Englishmen: but the hatred of which Jeffreys was the object was without a parallel in our history, and partook but too largely of the savageness of his own nature. The people, where he was concerned, were as cruel as himself, and exulted in his misery as he had been accustomed to exult in the misery of convicts listening to the sentence of death, and of families clad in mourning... Even delicate women, who had tears for highwaymen and house-breakers, breathed nothing but vengeance against him. The lampoons on him which were hawked about the town were distinguished by an atrocity rare even in those days... His spirit, as mean in adversity as insolent and inhuman in prosperity, sank down under the load of public abhorrence. His constitution, originally bad, and much impaired by intemperance, was completely broken by distress and

anxiety. He was tormented by a cruel internal disease, which the most skilful surgeons of that age were seldom able to relieve... One solace was left to him, brandy. Even when he had causes to try, and councils to attend, he had seldom gone to bed sober. Now, when he had nothing to occupy his mind save terrible recollections and terrible forebodings, he abandoned himself without reserve to his favorite vice.

It does not appear that one of the flatterers or buffoons whom he had enriched out of the plunder of his victims came to comfort him in the day of trouble. But he was not left in utter solitude. John Tutchin, whom he had sentenced to be flogged every fortnight for seven years, made his way into the Tower, and presented himself before the fallen oppressor... Poor Jeffreys, humbled to the dust, behaved with abject civility, and called for wine. "I am glad, sir," he said, "to see you." "And I am glad," answered the resentful Whig, "to see your lordship in this place." "I served my master," said Jeffreys: "I was bound in conscience to do so." "Where was your conscience," said Tutchin, "when you passed that sentence on me at Dorchester?" "It was set down in my instructions," answered Jeffreys, fawningly, "that I was to show no mercy to men like you, men of parts and courage. When I went back to court I was reprimanded for my lenity"... Even Tutchin, acrimonious as was his nature, and great as were his wrongs, seems to have been a little mollified by the pitiable spectacle which he had at first contemplated with vindictive pleasure... A more benevolent man, John Sharp, the excellent Dean of Norwich, forced himself to visit the prisoner. It was a painful task: but Sharp had been treated by Jeffreys, in old times, as kindly as it was in the nature of Jeffreys to treat anybody, and had once or twice been able, by patiently waiting till the storm of curses and invectives had spent itself, and by dexterously seizing the moment of good humor, to obtain for unhappy families some mitigation of their sufferings... The prisoner was surprised and pleased. "What!" he said, "dare you own me now?" It was in vain, however, the amiable divine tried to give salutary pain to that seared conscience. Jeffreys, instead of acknowledging his guilt, exclaimed vehemently against the injustice of mankind... Disease, assisted by strong drink and by misery, did its work fast. His stomach rejected all nourishment. He dwindled in a few weeks from a portly and even corpulent man to a skeleton. On the eighteenth of April he died, in the forty-first year of his age. The emaciated corpse was laid with all privacy, next to the corpse of Monmouth in the chapel of the Tower.

Macaulay's History.



RESULTS OF THE REVOLUTION OF 1688.

FOREMOST in the list of the benefits which our country owes to the Revolution we place the Toleration Act, a law in the provisions of which a philosopher will doubtless find much to condemn, but which had the practical effect of enabling every Protestant Nonconformist to follow the dictates of his own conscience without molestation...Scarcely a law in the Statute Book is theoretically more objectionable than the Toleration Act. But we question whether in the whole of that vast mass of legislation, from the Great Charter downwards, there be a single law which has diminished so much the sum of human suffering which has done so much to allay bad passions, which has put an end to so much petty tyranny and vexation, which has brought gladness, peace, and a sense of security to so many private dwellings.

The second of those great reforms which the Revolution produced was the final establishment of the Presbyterian Kirk in Scotland. To the contest between the Scotch nation and the Anglican Church are to be ascribed nearly thirty years of the most frightful misgovernment ever seen in any part of Great Britain. If the revolution had produced no other effect than that of freeing the Scotch from the yoke of an establishment which they detested, and giving them one to which they were attached, it would have been one of the happiest events in our history.

The third great benefit which the country derived from the Revolution was the alteration in the mode of granting the supplies. It had been the practice to settle on every prince, at the commencement of his reign, the produce of certain taxes which it was supposed would yield a sum sufficient to defray the ordinary expenses of the government...The distribution of the revenue was left wholly to the sovereign. He might be forced by a war, or by his own profusion, to ask for an extraordinary grant. But if his policy was economical and pacific, he might reign many years without being once under the necessity of summoning his parliament, or of taking their advice when he had summoned them. This was not all. The natural tendency of every society in which property enjoys tolerable security is to increase in wealth.

With the national wealth, the produce of the customs, of the excise, and of the post office would of course increase, and thus it might well happen that taxes, which at the beginning of a long reign were barely sufficient to support a frugal government in time of peace, might, before the end of that reign, enable the

sovereign to imitate the extravagance of Nero or Heliogabalus, to raise great armies to carry on expensive wars...Something of this sort had actually happened under Charles the Second, though his reign, reckoned from the Restoration, lasted only twenty-five years. His first Parliament settled on him taxes, estimated to produce twelve hundred thousand pounds a year. This they thought sufficient, as they allowed nothing for a standing army in time of peace...At the time of Charles's death the annual produce of these taxes considerably exceeded a million and a half; and the king, who during the years which immediately followed his accession, was perpetually in distress, and perpetually asking his parliament for money, was at last able to keep a body of regular troops, without any assistance from the House of Commons. If his reign had been as long as that of George the Third, he would probably before the close of it have been in the annual receipt of several millions over and above what the ordinary expenses of civil government required, and of those millions he would have been as absolutely master, as the sovereign now is of the sum allotted for the privy purse...He might have spent them in luxury, in corruption, in paying troops to overawe his people, or in carrying into effect wild schemes of foreign conquest. The authors of the Revolution applied a remedy to this great abuse...They settled on the king, not the fluctuating produce of certain fixed taxes, but a fixed sum, sufficient for the support of his own royal state. They established it as a rule that all the expenses of the army, the navy, and the ordnance should be brought annually under the review of the House of Commons, and that every sum voted should be applied to the service specified in the vote. The direct effect of this change was important. The indirect effect has been more important still ... From that time the House of Commons has been really the paramount power in the state. It has, in truth, appointed and removed ministers, declared war and conducted peace. No combination of the King and the Lords has ever been able to effect anything against the Lower House, backed by its constituents...Three or four times, indeed, the sovereign has been able to break the force of an opposition by dissolving the Parliament. But if that experiment should fail, if the people should be of the same mind as their representatives, he would clearly have no course left but to yield, to abdicate, or to fight.

The next great blessing which we owe to the Revolution is the purification of the administration of justice in political cases. Of the importance of this change no person can judge who is not well acquainted with the earlier volumes

of the state trials... Those volumes are, we do not hesitate to say, the most frightful record of baseness and depravity that is extant in the world. Our hatred is altogether turned away from the crimes and the criminals, and directed against the law and its ministers. We see villanies as black as ever imputed to any prisoner at any bar daily committed on the bench or in the jury box.

From this terrible evil the Revolution set us free. The law which secured to the judges their seats during life or good behaviour, did something. The law subsequently passed for regulating trials in cases of treason, did much more... The provisions of that law show, indeed, very little legislative skill. It is not framed on the principle of securing the innocent, but on the principle of giving a great chance of escape to the accused, whether innocent or guilty... This however is decidedly a fault on the right side. The evil produced by the occasional escape of a bad citizen, is not to be compared with the evils of that Reign of Terror, for such it was, that preceded the Revolution.

Since the passing of this law, scarce one single person has suffered death in England as a traitor, who had not been convicted on overwhelming evidence, to the satisfaction of all parties, of the highest crime against the state... Attempts have been made in times of great excitement to bring in persons guilty of high treason, for acts which, though sometimes highly blameable, did not necessarily imply a design, falling within the legal definition of treason. All those attempts have failed... During a hundred and forty years, no statesman, while engaged in constitutional opposition to a government, has had the axe before his eyes. The smallest minorities struggling against the most powerful majorities, in the most agitated times have felt themselves perfectly secure.

But of all the reforms produced by the Revolution, perhaps the most important was the full establishment of the liberty of unlicensed printing. The censorship which, under some form or other, had existed with rare and short intermissions under every government, monarchical or republican, from the time of Henry the Eighth downwards, expired, and has never since been renewed.

Macaulay.

THE DOOM OF THE STUARTS.

FROM the commencement of the troubles of the Stuarts to the last effort on their behalf, the Highlanders were their firm, and it may be said, almost their only friends. The lowland Scotch, incensed at the attempt of Charles I. to impose the English liturgy upon them, were among the earliest to proclaim the solemn league and covenant, and to join the English Parliament against him; but the Highlanders under Montrose rose in his cause, and created a powerful diversion in his favor...Again, when Charles II. attempted a similar measure, and aroused a similar spirit in the Lowlands, the Highlanders, under the notorious Claverhouse, maintained the royal ordinance; and afterwards, under the same commander, fought for James II. against his successful rival William III.

In George I.'s reign, in 1715, they once more, under the Earl of Mar, waved the standard of the Pretender, which they were compelled to lay down at Preston.

Finally, they made their most brilliant but fatal attempt in 1745, under Prince Charles Edward. Landing at Moidart, he erected his standard in Glen Finnan. The Highlanders rose around him, and soon set forward with him on the most daring and adventurous enterprise that ever was undertaken,—no other than to hurl his Hanoverian rival from the British throne, and place his own father upon it...Their success speedily astonished all Europe. They marched to Edinburgh, and took possession of it. The Prince occupied Holyrood, the ancient palace of his ancestors, and proclaimed his father king.

He marched out, and defeated the English forces at Prestonpans with a facility that appeared miraculous. His victorious army, amounting to less than 6,000 men, marched forward to invade England...The people of London soon heard with consternation and amazement that they had taken Carlisle, occupied Penrith, Kendal, Lancaster, Manchester; and finally, in only thirteen days from leaving Edinburgh, that they were quartered in Derby.

Nothing could exceed the terror of the metropolis. The moneyed men were struck with a deadly panic; numbers got together what property they could, and fled; several vessels lay at the Tower Quay, ready to convey the king and his treasures to Hanover...It is true that an army of 30,000 men lay at Finchley, and that the Duke of Cumberland, with another army, was hovering near the Highlanders on the borders of Staffordshire: but such was the opinion of the desperate valor

of the Scotch, that the crown of England was considered again imperilled.

Dissension and temerity, however, arose in the Pretender's camp, and the hope that the discontented among the English would recruit their ranks was bitterly disappointed. A retreat was resolved and acted upon,—a retreat as remarkable in point of strategy as their march had been.

With the Duke of Cumberland now hotly pursuing, they pushed on without loss or molestation. At Falkirk, mustering 8,000 men, they routed 13,000 English under General Hawley. The Highland chiefs, who severally had the control of their own clans, and could, therefore, act independently, still considered it prudent to retreat, contrary to the sanguine Prince's judgment. They reached Inverness, the troops worn out with their long and wonderful march, and famished for want of provisions.

They had had no pay for six weeks, and many dispersed to their homes, seeking refreshment and rest. It was plain that they had lost heart. These circumstances all pointed to the course which their chiefs counselled — to assume a strong position in the mountains, and avoid a general engagement ... Charles, however, goaded to rashness by the evident failure of his half-accomplished hopes, was resolved to risk all on a single die. He harassed his men by a miserable night-march in a vain attempt to surprise Cumberland's camp, and when they had thrown themselves down on Culloden Moor to sleep, the Duke was upon them ... Five thousand in number, the English artillery swept them down by whole ranks, and routed the remainder. The fate of the Stuart dynasty was sealed for ever.

Howitt.

Natural Science and Physics.



NATURAL SCIENCE AND PHYSICS.

THE INFLUENCE OF SCIENCE ON SOCIETY.

: difference of the degrees in which the individuals of a
: t community enjoy the good things of life has been a theme
: leclamation and discontent in all ages; and it is doubtless
paramount duty, in every state of society, to alleviate the
sure of the purely evil part of this distribution as much as
ible, and, by all the means we can devise, secure the lower
s in the chain of society from dragging in dishonor and
tchedness: but there is a point of view in which the picture
: least materially altered in its expression... In comparing
ety on its present immense scale, with its infant or less
eloped state, we must at least take care to enlarge every
ure in the same proportion. If, on comparing the *very* lowest
es in civilised and savage life, we admit a difficulty in de-
ng to which the preference is due, at least in every superior
le we cannot hesitate a moment; and if we institute a similar
parison in every different stage of its progress, we cannot
to be struck with the rapid rate of dilatation which every
ee upward of the scale exhibits, and which, in an estimate
verages, gives an immense preponderance to the present
every former condition of mankind, and, for aught we can
to the contrary, will place succeeding generations in the
e degree of superior relation to the present that this holds
lose passed away... Or we may put the same proposition in
r words, and, admitting the existence of every inferior
e of advantage in a higher state of civilisation which sub-
d in the preceding, we shall find, first, that, taking state
state, the proportional numbers of those who enjoy the
er degrees of advantage increases with a constantly ac-
cated rapidity as society advances; and, secondly, that the
rior extremity of the scale is constantly enlarging by the
tion of new degrees. The condition of a European prince
w as far superior, in the command of real comforts and
eniences, to that of one in the middle ages, as the latter to
condition of one of his own dependants.

The advantages conferred by the augmentation of our physical resources through the medium of increased knowledge and improved art, have this peculiar and remarkable property—that they are in their nature diffusive, and cannot be enjoyed in any exclusive manner by a few... An eastern despot may extort the riches and monopolise the art of his subjects for his own personal use: he may spread around him an unnatural splendor and luxury, and stand in strange and preposterous contrast with the general penury and discomfort of his people: he may glitter in jewels of gold and raiment of needle-work; but the wonders of well contrived and executed manufacture which we use daily, and the comforts which have been invented, tried, and improved upon by thousands, in every form of domestic convenience, and for every ordinary purpose of life, can never be enjoyed by him... To produce a state of things in which the physical advantages of civilised life can exist in a high degree, the stimulus of increasing comforts and constantly elevated desires must have been felt by millions; since it is not in the power of a few individuals to create that wide demand for useful and ingenious applications, which alone can lead to great and rapid improvements, unless backed by that arising from the speedy diffusion of the same advantages among the mass of mankind.

If this be true of physical advantages, it applies with still greater force to intellectual. Knowledge can neither be adequately cultivated nor adequately enjoyed by a few; and although the conditions of our existence on earth may be such as to preclude an abundant supply of the physical necessities of all who may be born, there is no such law of nature in force against that of our intellectual and moral wants... Knowledge is not, like food, destroyed by use, but rather augmented and perfected. It acquires not, perhaps, a greater certainty, but at least a confirmed authority and a probable duration, by universal assent: and there is no body of knowledge so complete, but that it may acquire accession, or so free from error but that it may receive correction in passing through the minds of millions... Those who admire and love knowledge for its own sake ought to wish to see its elements made accessible to all, were it only that they may be the more thoroughly examined into, and more effectually developed in their consequences, and receive that durability and plastic quality which the pressure of minds of all descriptions, constantly moulding them to their purposes, can alone bestow. But to this end it is necessary that it should be divested, as far as possible, of artificial difficulties and stripped of all such technicalities as tend to place

it in the light of a craft and a mystery, inaccessible without a kind of apprenticeship... Science, of course, like everything else, has its own peculiar terms, and, so to speak, its idioms of language ; and these it would be unwise, were it even possible, to relinquish : but everything that tends to clothe it in a strange and repulsive garb, and especially everything that, to keep up an appearance of superiority in its professors over the rest of mankind, assumes an unnecessary guise of profundity and obscurity, should be sacrificed without mercy... Not to do this is to deliberately reject the light which the natural unencumbered good sense of mankind is capable of throwing on every subject, even in the elucidation of principles : but where principles are to be applied to practical uses it becomes absolutely necessary ; as all mankind have then an interest in their being so familiarly understood, that no mistakes shall arise in their application.

The same remark applies to arts. They cannot be perfected till their whole processes are laid open, and their language simplified and rendered universally intelligible. Art is the application of knowledge to a practical end. If the knowledge be merely accumulated experience, the art is *empirical* ; but if it be experience reasoned upon and brought under general principles, it assumes a higher character, and becomes a *scientific art*... In the progress of mankind from barbarism to civilised life, the arts necessarily precede science. The wants and cravings of our animal constitution must be satisfied ; the comforts and some of the luxuries of life must exist... Something must be given to the vanity of show, and more to the pride of power: the round of baser pleasures must have been tried and found insufficient before intellectual ones can gain a footing ; and when they have obtained it, the delights of poetry and its sister arts still take precedence of contemplative enjoyments, and the severer pursuits of thought ; and when these in time begin to charm from their novelty, and sciences begin to arise, they will at first be those of pure speculation... The mind delights to escape from the trammels which had bound it to earth, and luxuriates in its newly found powers. Hence, the abstractions of geometry ; the properties of numbers ; the movements of the celestial spheres ; whatever is abstruse, remote, and extramundane—become the first objects of infant science... Applications come late : the arts continue slowly progressive, but their realm remains separated from that of science by a wide gulf which can only be passed by a powerful spring. They form their own language and their own conventions, which none but artists can understand... The whole tendency of em-

pirical art is to bury itself in technicalities, and to place its pride in particular short cuts and mysteries known only to adepts ; to surprise and astonish by results, but conceal processes...The character of science is the direct contrary. It delights to lay itself open to inquiry ; and is not satisfied with its conclusions, till it can make the road to them broad and beaten : and in its applications it preserves the same character; its whole aim being to strip away all technical mystery, to illuminate every dark recess, with a view to improve them on rational principles.

Herschel.

ACCIDENT *versus* INVENTION.

I WILL readily allow that accident has had much to do with the origin of the arts as with the progress of the sciences. But it has been by scientific processes and experiments that these accidental results have been rendered really applicable to the purposes of common life...Besides, it requires a certain degree of knowledge and scientific combination to understand and seize upon the facts which have originated in accident. It is certain, that in all fires alkaline substances and sand are fused together, and clay hardened ; yet for ages after the discovery of fire, glass and porcelain were unknown, till some men of genius profited by scientific combination often observed but never applied...It suits the indolence of those minds which never attempt anything, and which probably if they did attempt anything would not succeed, to refer to accident that which belongs to genius. It is sometimes said by such persons, that the discovery of the law of gravitation was owing to accident ; and a ridiculous story is told of the falling of an apple, as the *cause* of this discovery...In the progress of an art, from its rudest to its most perfect state, the whole process depends upon experiments. Science is, in fact, nothing more than the refinement of common sense, making use of facts already known to acquire new facts. Clays, which are yellow, are known to burn red ; calcareous earth renders flint fusible : the persons who have improved earthenware made their selections accordingly...Iron was discovered at least one thousand years before it was rendered malleable ; and from what Herodotus says of this discovery, there can be little doubt that it was developed by a scientific worker in metals. Vitruvius tells us, that the ceruleum, a color made of copper, which exists in perfection in all the old paintings of the Greeks and Romans, and on the mummies of the Egyptians, was discovered by an Egyptian king ; there is, therefore, every reason to believe that

it was not the result of accidental combination, but of experiments made for producing or improving colors... In modern times the refining of sugar, the preparation of nitre, the manufacturing of acids, salts, &c., are all results of pure chemistry. Take gunpowder as a specimen ; no person but a man infinitely diversifying his processes, and guided by analogy, could have made such a discovery... Look into the books of the alchemists. It is true, these persons were guided by false views, yet they made most useful researches ; and Lord Bacon has justly compared them to the husbandman, who, searching for an imaginary treasure, fertilised the soil... They might likewise be compared to persons who, looking for gold, discover the fragments of beautiful statues, which may appear of little value to the persons who found them ; but which, when selected and put together by artists, and their defective parts supplied, are found to be invaluable... Look to the progress of the arts since they have been enlightened by a system of science, and observe with what rapidity they have advanced. Again, the steam engine in its rudest form was the result of a chemical experiment ; in its refined state, it required the combinations of the most recondite principles of chemistry and mechanics, and that philosopher who has given this wonderful instrument of power to civil society, was led to the great improvements he made, by the discoveries of a kindred genius on the heat absorbed when water becomes steam, and of the heat evolved when the steam becomes water... Even the most superficial observer must allow in this case a triumph of science, for what a wonderful impulse has this invention given to the progress of the arts and manufactures in our country ; how much has it diminished labor, how much has it increased the real strength of the country ! Acting as it were with a thousand hands, it has multiplied our active population ; receiving its elements of activity from the bowels of the earth, it performs operations, which formerly were painful, oppressive, and unhealthy to the laborers, with regularity and constancy ; and gives security and precision to the efforts of the manufacturer... The inventions connected with the steam engine, at the same time that they have greatly diminished labor of body, have tended to increase power of mind and intellectual resources. Adam Smith well observes that manufacturers are always more ingenious than husbandmen ; and manufacturers who use machinery will probably always be found more ingenious than handicraftsmen... You say that porcelain was a result of accident : the improvements invented in this country, as well as those made in Germany and France, have been entirely the

result of chemical experiments; the Dresden and the Sèvres manufactories have been the work of men of science; and it was by multiplying his chemical researches that Wedgwood was enabled to produce at so cheap a rate those beautiful imitations, which, while they surpass the ancient vases in solidity and perfection of material, approach them in the elegance, variety, and tasteful arrangements of their forms. In another department, the use of the electric conductor was a purely scientific combination, and the sublimity of the discovery of Benjamin Franklin was only equalled by the happy application he immediately made of it.

H. Dary.

GEOLOGY.

ACTION OF WATER ON STONE.

All detached pieces and fragments of stone or rock, whether they be boulders of many tons weight, or pebbles, or sand, or clay, or mud, have once formed portions of large, solid, originally constituted masses of rock, and have all, with the exception of matters actually blown from the crater of a volcano, acquired their present form and condition through the action of flowing water ... There is not a shower of rain that falls, whether on the crowded street, the dusty road, the plains, the hills, or the mountain summits, that does not cause a multitude of rills and streams of muddy water to flow from higher to lower levels. The mud borne along by that water was once part of a solid rock ... Even if it be but the waste of the bricks and tiles of our houses, this is still true; and it is equally true for every other case, except for those particles of it that may be the result of the decomposition of animal or vegetable matter ... Even the gentlest rain that soaks silently into the most richly carpeted meadow of grass, contributes to the stock of water contained below ground, which here and there bursts forth in springs, carrying momentaneously some grain of mineral matter to the brook, the river, and the ocean ... Who has not seen the springs discolored after heavy rain? Who has not watched in wet weather the swollen brook or the roaring mountain-torrent, with its thick, muddy, coffee-coloured water? Who does not know the flooded aspect of a river, with its dull, yellow, turbid eddies, so different from the limpid stream that commonly flows between its banks? ... Whoever has seen these things, has seen one of the multitudinous actions of nature which are for ever and everywhere in operation, performing slowly, and in the lapse of ages, mighty works by means apparently inadequate, and at first sight, perhaps, not especially adapted to the purpose.

There are, however, other agencies acting with greater local power than mere rain, in wearing away solid rocks and transporting the waste to other localities. We have alluded to the

action of brooks and rivers; but if we were to trace them more minutely and in detail, and follow them up to where they acquire a swifter stream, or where rapids and cataracts occur in them, we should estimate still more highly their destructive power on solid rock... Rivers are in fact great natural saws or planes, for ever grooving furrows in the land. Let any one look at the bed of a mountain torrent, where it has found its path through a deep ravine, and he will see the amount of its force perpetually acting through uncounted ages... "The rocks," says Lyell, "over which the Niagara water flows, project, and sometimes fall in enormous fragments, with a noise like distant thunder. The width of the river below the falls is reduced to a hundred and sixty yards, and it runs furiously along the walled valley, cut by the stream, in a bed covered with masses of rock. By the continued destruction of the rocks the falls have, within the last forty years, receded nearly fifty yards; and it is supposed, with reason, that the cataract was once as low as Queenstown, seven miles from its present situation."

On mountain-tops, or in high latitudes, even on lower ground, frost is a great agent of degradation. Any one who ascends the mountains of our own islands for the first time, will often be surprised at the multitude of angular fragments and fallen blocks he sees scattered over their summits, or piled at the foot of their precipices... Of these many, if not most, have been detached by the action of frost, causing the water contained in the joints and crevices to expand and rend them asunder, just as in a cold winter's night the jugs and water bottles are apt to be burst by the frost in our bed-rooms... If we were to visit mountains such as the Alps, where glaciers are formed, we should see still another effect of frost. A glacier is in fact a stream of ice slowly descending the mountain-side. In its slow but mighty and irresistible progress, it exerts an enormous force in grinding and grooving the rocks on which it rests, tearing off many of the projecting blocks it meets with, and, by undermining the cliffs at its sides, causing blocks to fall upon its surface. These blocks it constantly carries forward, till it comes to the boundary, where it melts away, when it of course deposits them. They there form a huge mound or ridge of broken fragments, called in the Alps a "moraine."

Similarly in all those countries where ice forms periodically in large quantity, either on the rivers or on the sea-shores, it both rends asunder and grinds up whatever rock it comes in contact with, but more especially in these cases does it aid in carrying off to distant localities blocks already detached... It encases these in its own mass, freezes them in, and when it is

itself floated off, bears them along with it, transporting them perhaps many miles, or, in the case of icebergs, even many hundred miles from the place where it found them, and, on melting, drops them at the bottom of the sea.

Of all agencies, however, the most efficient in the destruction and degradation of rock, because it is both locally powerful and very widely diffused, is the action of the sea-breakers. In all climes, in all latitudes, along all shores of all seas and oceans, this action is ceaselessly at work: day and night, summer and winter, gently and imperceptibly even in calms, furiously and vigorously in storms, gradually but steadily in moderate weather, wave after wave is launched from the sea against the land, eating and tearing it away.

J. Beete Jukes.

SCULPTURE OF MOUNTAINS.

IT is evident that, through all mountain ruins, some traces must still exist of the original contours. The directions in which the mass gives way must have been dictated by the dispositions of its ancient sides; and the currents of the streams that wear its flanks must still, in great part, follow the course of the primal valleys. So that, in the actual form of any mountain peak, there must usually be traceable the shadow or skeleton of its former self; like the obscure indications of the first frame of a war-worn tower, preserved, in some places, under the heap of its ruins, in others, to be restored in imagination from the thin remnants of its tottering shell; while here and there, in some sheltered spot, a few unfallen stones retain their gothic sculpture, and a few touches of the chisel, or stains of color, inform us of the whole mind and perfect skill of the old designer... With this great difference, nevertheless, that in the human architecture, the builder did not calculate upon ruin, nor appoint the course of impending desolation; but that in the hand of the great Architect of the mountains, time and decay are as much the instruments of His purpose as the forces by which He first led forth the troops of hills in leaping flocks;—the lightning and the torrent, and the wasting and weariness of innumerable ages, all bear their part in the working out of one consistent plan; and the Builder of the temple for ever stands beside His work, appointing the stone that is to fall, and the pillar that is to be abased, and guiding all the seeming wildness of chance and change, into ordained splendors and foreseen harmonies.

How the top of the hill was first shaped so as to let the

currents of water act upon it in so varied a way we know not.... A stream receives a slight impulse this way or that, at the top of the hill, but increases in energy and sweep as it descends, gathering into itself others from its sides, and uniting their power with its own. A single knot of quartz occurring in a flake of slate at the crest of the ridge may alter the entire destinies of the mountain form... It may turn the little rivulet of water to the right or left, and that little turn will be to the future direction of the gathering stream what the touch of a finger on the barrel of a rifle would be to the direction of the bullet. Each succeeding year increases the importance of every determined form, and arranges in masses yet more and more harmonious, the promontories shaped by the sweeping of the eternal waterfalls.

The importance of the results thus obtained by the slightest change of direction in the infant streamlets, furnishes an interesting type of the formation of human characters by habit. Every one of those notable ravines and crags is the expression, not of any sudden violence done to the mountain, but of its little *habits*, persisted in continually. It was created with one ruling instinct; but its destiny depended nevertheless, for effective result, on the direction of the small and all but invisible tricklings of water, in which the first shower of rain found its way down its sides... The feeblest, most insensible oozings of the drops of dew among its dust were in reality arbiters of its eternal form; commissioned with a touch more tender than that of a child's finger,—as silent and slight as the fall of a half-checked tear on a maiden's cheek,—to fix for ever the forms of peak and precipice, and hew those leagues of lofted granite into the shapes that were to divide the earth and its kingdoms. Once the little stone evaded,—once the dim furrow traced,—and the peak was for ever invested with its majesty, the ravine for ever doomed to its degradation... Thenceforward, day by day, the subtle habit gained in power; the evaded stone was left with wider basement; the chosen furrow deepened with swifter-sliding wave; repentance and arrest were alike impossible, and hour after hour saw written in larger and rockier characters upon the sky, the history of the choice that had been directed by a drop of rain, and of the balance that had been turned by a grain of sand.

Ruskin.

ROCKS MECHANICALLY AND CHEMICALLY FORMED.

ALL sand being composed of the small fragments of pre-existing rock, *rounded by the action of moving water*, we are obliged to conclude that all sandstone is composed of fragments of pre-existing rock, rounded by the action of moving water, deposited at the bottom of that water, and subsequently compacted together into stone or rock... It is, therefore, tolerably certain that all the waste of rock which is caused by the moving waters of brooks, rivers, lakes, and seas, is eventually deposited in their deeper and stiller portions, where it is gradually formed into these kinds of rock... We must feel pretty sure also that in all our present lakes and seas, without exception, there is constantly taking place, in one part or other, a deposition of such materials, which, when accumulated in any quantity, bed over bed, must be, by the mere weight and pressure of the superincumbent portions, compacted together into tolerably firm stone or rock. If we had any doubt on this point, we should not be able to continue our examination of such rocks very long without having those doubts removed, by discovering in them the remains of animals and plants that had lived in or had been carried into the waters.

We should find in some sandstones huge stems of trees, more or less completely converted into stone, in some cases changed into the purest flint, in others converted into lignite or into coal. In some sandstones, and in many shales, we should find the leaves and stems of plants, with all their delicate tracery exquisitely preserved... In many rocks, whether sandy or clayey, we should find either the entire bodies or the casts of shells, crabs, corallines, seaweeds, and other aquatic beings, often occurring in regular beds, and under such circumstances as prove them to have lived and died in the place we now find them, when that place was covered with the waters of lakes and seas... We find also the skeletons of fish, reptiles, birds, and quadrupeds,—bones either of animals that lived in the waters, or of carcases that have been carried into them from the land by the action of rivers.

If we required any other evidence, then, than the mere structure of the rock, to prove that all the rocks of which we have been speaking, such as sandstone and conglomerate, shale, slate, and the various forms of clay, were formed by the slow and gradual accumulation of earthy matters under water, we should have in these facts abundant proof of the position... Now, to rocks formed by such agency we may rightly assign the

term "mechanically formed rocks :" they have been produced by the simple mechanism of moving water transporting earthy matter from one position to another.

There is, however, another set of rocks, which we may with equal reason call "chemically formed rocks." Of these limestone is the principal and most abundant, but there are some others, such as gypsum and rock-salt.

Almost every one must have heard of "petrifying wells and springs,"—places where birds'-nests, twigs, sticks, and other articles, being placed in the water, become in the course of a few weeks incrusted over with stone, which, when tested, is found to be limestone, or what the chemists call carbonate of lime. The waters having this property are often quite pure-looking and transparent, holding this mineral substance in *perfect solution*, as if it were melted salt or sugar,—not in mechanical suspension, or in the state of mud or sand. The chemist, indeed, tells us that perfectly pure water,—that is, water having no mineral substances whatever dissolved in it,—is a very great rarity on the face of the earth, much rarer than are now-a-days the black swans the poet made such a fuss about.

We can easily understand that water, which under one set of circumstances can dissolve mineral substances, will under another set of circumstances precipitate them or deposit them at its bottom. Without attempting to puzzle ourselves with any of the recondite mysteries of chemistry, we may recollect that lime is nothing more than an oxide of a metal called calcium, or might be called the rust of calcium, just as iron-rust is an oxide of iron. Salt, again, is made of the union of another metal, sodium with another simple substance called chlorine, and is therefore a chloride of sodium.

Lime, again, combines with carbonic acid to make carbonate of lime, or calc spar, or pure chalk and limestone, and with sulphuric acid to make sulphate of lime or gypsum.

Now, simple carbonate of lime is only sparingly soluble in water ; but if to the lime a double dose of carbonic acid be added, or it become what chemists call a bicarbonate, it is altogether soluble in water, bicarbonate of lime never having been known to exist in a solid state.

If, therefore, the waters of a brook or spring contain any quantity of carbonic acid mingled with them, which almost all natural water does, and they come in contact with any lime or limestone in their passage, they will dissolve a portion of it and hold it in solution, till, either from the evaporation of the water or the abstraction of some of the carbonic acid from some cause

or other, the carbonate of lime becomes solid again, and incrusts whatever happens to be nearest at hand. Hence, the phenomena of petrifying springs, and of the stalactites and stalagmites so often found in limestone caverns.

Now, as in all these cases we see solid calcareous rock deposited from water under our very eyes, and can trace the method of its formation, we are naturally the more disposed to believe that the waters of our present seas and lakes may contain in solution the elements of similar rocks, and that the calcareous rocks which enter so largely into the composition of all existing lands may have been deposited from those waters at the time when those portions of the earth's surface were covered by them.

If, however, our belief in the aqueous origin of arenaceous and argillaceous rocks was strengthened and confirmed by finding them so full of the remains of animals or plants that had inhabited the water, or whose remains had been swept into it, much more will this be the case as regards the calcareous rocks.

All calcareous rocks, whether they be chalk, limestone, or marble, abound in fossils, being for the most part full of shells, corals, starfishes, sea-urchins, crustacea (such things as crabs and lobsters), teeth and bones and scales of fish, bones of sea-reptiles, &c. In some instances, whole mountain masses are entirely made up of the fragments of sea-creatures, and sometimes of only one kind of sea-creature, such are the crinoidal * marbles, often used for chimney-pieces.

It would be impossible for any one attentively to examine any limestone country, and see the way in which the shells and other fossils, often of the most delicate, fragile, and beautiful structure, lie in bed over bed, and layer over layer, with the utmost order and regularity, over large areas, without being convinced that the whole mass of rock had been gradually accumulated at the bottom of the sea. *J. Beete Jukes.*

SUBSTANCE OF ROCK: SEDIMENTARY AND VOLCANIC.

IN approaching any large mountain range, the ground over which the spectator passes, if he examine it with any intelli-

* So called because they are almost entirely composed of the fragments of the stems of crinoidal animals, — the sea lilies, animals resembling a starfish, growing on a stem, with the fingers split up into a multitude of jointed filaments.

gence, will almost always arrange itself in his mind under three great heads. There will be, first, the ground of the plains or valleys he is about to quit, composed of sand, clay, gravel, rolled stones, and variously mingled soils ; which, if he has any opportunity, — at the banks of a stream, or the sides of a railway cutting, — to examine to any depth, he will find arranged in beds exactly resembling those of modern sand-banks or sea-beaches, and appearing to have been formed under such natural laws as are in operation daily around us ... At the outskirts of the hill district he may, perhaps, find considerable eminences formed of these beds of loose gravel and sand ; but, as he enters into it farther, he will soon discover the hills to be composed of some harder substance, properly deserving the name of rock, sustaining itself in picturesque forms, and appearing, at first, to owe both its hardness and its outlines to the action of laws such as do not hold at the present day ... He can easily explain the nature, and account for the distribution of the banks which overhang the lowland road, or of the dark earthy deposits which enrich the lowland pasture ; but he cannot so distinctly imagine how the limestone hills of Derbyshire and Yorkshire were hardened into their stubborn whiteness, or raised into their cavernous cliffs ... Still, if he carefully examines the substance of these more noble rocks, he will, in nine cases out of ten, discover them to be composed of fine calcareous dust, or closely united particles of sand ; and he will be ready to accept as possible, or even probable, the suggestion of their having been formed by slow deposit at the bottom of deep lakes and ancient seas, under such laws of Nature as are still in operation.

But as he advances yet farther into the hill district, he finds the rocks around him assuming a gloomier and more majestic condition. Their tint darkens ; their outlines become wild and irregular ; and whereas before they had only appeared at the roadside in narrow ledges among the turf, or glancing out from among the thickets above the brooks in white walls and fantastic towers, they now rear themselves up in solemn and shattered masses far and near ; softened, indeed, with strange harmony of clouded colors, but possessing the whole scene with their iron spirit ; and rising, in all probability, into eminences as much prouder in actual elevation than those of the intermediate rocks, as more powerful in their influence over every minor feature of the landscape.

And when the traveller proceeds to observe closely the materials of which these nobler ranges are composed, he finds

also a complete change in their internal structure. They are no longer formed of delicate sand or dust, each particle of that dust the same as every other, and the whole mass depending for its hardness merely on their closely cemented unity; but they are now formed of several distinct substances, visibly unlike each other; and not *pressed*, but *crystallised* into one mass,—crystallised into a unity far more perfect than that of the dusty limestone, but yet without the least mingling of their several natures with each other... Such a rock, freshly broken, has a spotty, granulated, and, in almost all instances, sparkling appearance; it requires a much harder blow to break it than the limestone or sandstone; but, when once thoroughly shattered, it is easy to separate from each other the various substances of which it is composed, and to examine them in their individual grains or crystals; of which each variety will be found to have a different degree of hardness, a different shade of color, and a different character of form.

But this examination will not enable the observer to comprehend the method either of their formation or aggregation, at least by any process such as he now sees taking place around him; he will at once be driven to admit that some strange and powerful operation has taken place upon these rocks, different from any of which he is at present cognisant; and farther inquiry will probably induce him to admit, as more than probable, the supposition that their structure is in a great part owing to the action of enormous heat prolonged for indefinite periods. *Ruskin.*



VOLCANIC ROCK.

We have glanced at that important class of rocks which, having been deposited in regular layers or strata under water, are therefore termed sedimentary or aqueous rocks; let us now turn to the other leading type of rocks, those which have cooled down and consolidated from a state of fusion, and are, therefore, termed igneous rocks.

Lava, as the immediate product of the volcano, is the best known of these rocks. It has many varieties, called trachyte, dolerite, basalt, &c. There are also other igneous rocks, which, having not been poured out at the surface, but cooled and consolidated at greater or less depths in the interior, have become more crystalline than lava usually is, and differ from it in texture, and to a certain extent in composition. Granite, sye-

nite, green-stone, felstone, are the best known of these rocks, and their porphyritic varieties which are sometimes spoken of simply as porphyry.

A volcano is generally a more or less perfectly conical mountain, composed very largely of pumice, ashes, and cinders, with streams of rough cooled lava running down its sides, and spreading here and there about its base... There is commonly at its summit a basin-shaped hollow, or crater, which, during periods of eruption, is open either entirely or partially; and from this orifice are belched forth showers of red-hot stones, ashes, steam, gases of various kinds sometimes inflammable. Melted rock or lava is sometimes forced up over the lip of the crater, and rushes like a torrent down the sides of the cone, or sometimes breaks out lower down.

The effects of single eruptions, such as the fall of ashes and powder in sufficient quantities to darken the sky, have been known to extend even hundreds of miles from the orifice whence they were blown. Great streams of lava some miles in width, and fifty or a hundred feet in depth, have been known to run for twenty or thirty miles in length, filling up the hollows of lakes and the valleys of rivers, and totally obliterating the old features of large tracts of country... The sides of great volcanic mountains have been frequently rent by long fissures, which have been filled with molten rock; and these, when cooled and consolidated, act the part of great ribs and bars, supporting the framework of the structure. These stand out of the sides on the cliffs or ravines, or on the worn flanks of the mountain, like walls, projecting by reason of their superior hardness, having resisted the erosive action which formed the cliff or ravine, in a greater degree than the softer materials about them.

When the volcano has grown to a considerable magnitude by the successive additions of materials ejected from one focus, it often happens that in some following eruption it breaks out on the side or near the foot of the mountain; a new cone is then formed on a smaller scale, which is itself ultimately covered up and buried by accumulations derived from the old or from still newer vents... If therefore we could take any large volcanic mountain, such as Etna or Teneriffe, and dissect it, so as to observe the successive steps of its formation from the commencement, we should find it possessing a most curiously complicated structure. Its roots would probably consist of hard compact or crystalline igneous rocks, interstratified with aqueous ones; its upper part, of coat upon coat of ejected matters deposited first upon one side, then upon another; the great cone

blistered all over as it were with little minor excrescences here and there, many concealed and buried under more recent eruptions ; and the whole penetrated in various directions by veins or walls of rock more or less nearly upright.

As molten rock does in many instances succeed in forcing its way to the surface either on dry land or at the bottom of seas and lakes, we should naturally expect that there might be also many cases in which it did not so succeed, but lay buried still in the interior of the earth, and after a time cooled where it was... Moreover, as the lava-stream of a volcano is merely the boiling over of a vast quantity of melted stone deep below ground, and the part reaching the surface must be a small portion of the whole mass, it must happen sometimes that a great portion of the remainder of the molten rock will cool down ultimately in the interior of the volcano, and perhaps pretty low down under a great pressure of other rock, and much more slowly than the actual lava... It might be naturally anticipated that the rocks, when thus cooled down, slowly and under great pressure, and perhaps without the access of either air or water, would exhibit somewhat a different structure from the volcanic rocks.

Whenever we examine rocks, therefore, that had once been deep-seated, but which are now exposed to our observation, we should expect to find here and there some that, though of truly igneous origin, yet were not exactly similar either in structure or perhaps in composition to those which we find on the surface of volcanoes. As a matter of fact we do find such rocks, which we know to be igneous ones for the following reasons : —

First, some of them do resemble, in structure and other characters, some of those which we know to be products of volcanoes.

Secondly, when we find them in connection with aqueous rocks, we perceive that they are not regularly *interstratified* with them, but often intrude irregularly among them, sometimes in vertical walls cutting through them, sometimes in rude shapeless masses, sometimes in fine branching veins, running for many yards through the aqueous rocks, splitting up into narrow strings, and twisting in various directions... This takes place in such a way that it is plain the aqueous rocks were in such places first formed, and have then been disturbed, broken, and cracked in various directions, the cracks being filled up by the intrusion or injection of the other rock in a fluid state.

Thirdly, it is shown that this fluidity was the result of great

heat, in fact a molten fluidity, because the aqueous rocks near the injected masses have evidently undergone such an alteration as is the effect of heat; that alteration being greatest closest to the intrusive rock, and dying away as we recede from it... For instance, we find soft sandstones hardened or half fused into quartz rock; shales baked into jasper or Lydian stone, or into a substance resembling porcelain; chalk altered into crystalline marble, coal converted into cinder, or into a substance resembling coke.

Rocks that have the characters of these intrusive masses, dykes or veins, must be igneous rocks, and such are the rocks called basalt, greenstone, feldspathic, trap, syenite, and granite.

As the aqueous rocks are all stratified more or less completely, and often go by that designation, so these rocks, never having any true stratification however they may sometimes assume its appearance, are often called unstratified rocks. In order to distinguish them from volcanic rocks, the terms hypogene and Plutonic have been applied to them, both indicating that they have been formed or brought into their present state *below ground*, while volcanic rocks have always been ejected above the surface of the earth, whether that surface were there covered with water or only with air.

J. Beete Jukes.



CARBONIFEROUS GROUP: COAL.

COAL occupies an important place in that series of sedimentary rocks which contains the records of ancient life; therefore termed the palæozoic period. This series, with a partial interruption of the oolite at Derby, extends from Stonehaven in Scotland, to Milford in South Wales; and the coal has thrust aside other naturally overlying rocks, at various points on this central range... Chiefly on both sides of the Forth, and of the Tyne, in Lancashire, and the West Riding, Stafford, and Warwick, Bristol, and South Wales... Coal is of vegetable origin, and an imaginative picture of the probable process of its formation is thus drawn by the late Hugh Miller:—

“Imagine to yourselves a low shore, thickly covered with vegetation. Huge trees of wonderful form stand out far into the water. There seems no intervening beach. A thick hedge of reeds, tall as the masts of pinnacles, runs along the deeper bays, like water-flags at the edge of a lake... A river of vast

volume comes rolling from the interior, darkening the water for leagues with its slime and mud, and bearing with it to the open sea, reeds, and fern, and cones of the pine, and immense floats of leaves, and now and then some bulky tree, undermined and uprooted by the current. We near the coast, and now enter the opening of the stream. A scarce penetrable phalanx of reeds, that attain to the height and well nigh the bulk of forest trees, is ranged on either hand ... The bright and glossy stems seem fluted like Gothic columns, the pointed leaves stand out green at every joint, tier above tier, each tier resembling a coronal wreath, or an ancient crown, with the rays turned outwards, and we see a-top what may be either large spikes or catkins ... What strange forms of vegetable life appear in the forest behind ! Can that be a club-moss that raises its slender height for more than fifty feet from the soil ? Or can these tall, palm-like trees be actually ferns, and these spreading branches mere fronds ? And then these gigantic reeds ! are they not mere varieties of the common horsetail of our bogs and morasses, magnified some sixty or a hundred times ?... Have we arrived at some such country as the continent visited by Gulliver, in which he found thickets of weeds and grass tall as woods of twenty years' growth, and lost himself amid a forest of corn fifty feet in height. The lesser vegetation of our country, its reeds, mosses, and ferns, seem here as if viewed through a microscope : the dwarfs have sprung up into giants, and yet there appears to be no proportional increase in size among what are unequivocally its trees ... Yonder is a group of what seem to be pines,—tall and bulky, 'tis true, but neither taller nor bulkier than the pines of Norway and America, and the club-moss behind shoots up its green hairy arms, loaded with what seem catkins, above their topmast cones. But what monster of the vegetable world comes floating down the stream, now circling round in the eddies, now dancing on the ripple, now shooting down the rapid ? It resembles a gigantic star-fish, or an immense coach wheel, divested of the rim ... There is a green dome-like mass in the centre, that corresponds to the nave of the wheel or the body of the star-fish ; and the boughs shoot out horizontally on every side, like spokes from the nave, or rays from the central body. The diameter considerably exceeds forty feet ; the branches, originally of a deep green, are assuming the golden tinge of decay, the cylindrical and hollow leaves stand out thick on every side, like prickles of the wild rose on the red, fleshy, lance-like shoots of a year's growth, that will be covered two seasons hence with

flowers and fruit... That strangely formed organism presents no existing type among all the numerous families of the vegetable kingdom.

"There is an amazing luxuriance of growth all around us. Scarce can the current make way through the thickets of aquatic plants that rise thick from the muddy bottom; and though the sunshine falls bright on the upper boughs of the tangled forest beyond, not a ray penetrates the more than twilight gloom that broods over the marshy platform below... The rank steam of decaying vegetation forms a thick blue haze, that partially obscures the underwood. Deadly lakes of carbonic acid gas have accumulated in the hollows; there is a silence all around, uninterrupted save by the sudden splash of some reptile fish, that has risen to the surface in pursuit of its prey; or when a sudden breeze stirs the hot air, and shakes the fronds of the giant ferns, or the catkins of the reeds... The wide continent before us is a continent devoid of animal life, save that its pools and rivers abound in fish and mollusca, and that millions and tens of millions of the infusory tribes swarm in the bogs and marshes."



GEOLOGICAL ASPECT OF ENGLAND.

THE region of Central England was once a broad ocean sound, that ran nearly parallel to St. George's Channel; there rose land on both sides of it; Wales had got its head above water; so had the Cotteswold hills in Gloucestershire... The waves beat against the Malverns on the one side and the Cotteswold hills on the other; they rose high along the flanks of the Welkin; the secluded dells of Hagley were but the recesses of a submarine rock shaggy with sea-weed, that occupied its central tide-way; while the Severn, exclusively a river of Wales in those days, emptied its waters into the sea at the Breidden hills in Montgomeryshire, a full hundred miles from where it now falls into the Bristol Channel... Along this broad sound, every spring when the northern ice began to break up — for its era was that of the British glacier and iceberg — huge ice-floes came drifting in shoals from the Scottish coast, loaded underneath with the granitic blocks, which they had enveloped when forming in firths and estuaries; and as they floated along, the loosened boulders dropped on the sea-bottom beneath. Here lie scores in the comparatively still water, and there lie hundreds where the conflicting tides dashed fierce and strong...

In the tract extending from the hamlet of Trescot to the village of Trysull in the south-western parts of Staffordshire, the quantity, of occasionally gigantic dimensions, of these northern boulders, several tons in weight, may well excite surprise, seeing that they there occupy one of the most central districts of England...Here the farmer is incessantly laboring to clear the soil, either by burying them, or by piling them up into walls or hedge-banks ; and his toil, like that of Sisyphus, seems interminable, for in many spots new crops of them, as it were, appear as fast as the surface is relieved from its sterilising burden...So great indeed is their abundance, that an observer unacquainted with the region would feel persuaded he was approaching the foot of some vast gigantic range, and yet the source of their origin is one hundred and fifty miles distant...The softer formation of the country we find represented, like the shale-beds on the shore, by wide flat valleys or extensive plains ; the harder by chains of hills of greater or lesser altitude, according to the degree of solidity possessed by the composing materials...A few insulated districts of country, such as part of North Wales, Westmoreland and Cornwall, where the Plutonic agencies have been active, we find coming under the more complex law of Scottish landscape ; but in all the rest, soft or hard, solid or incoherent, determines the question of high or low, bold or tame...Here, for instance, is a common map of England, on which the eminences are marked, but not the geologic formation. These, however, we may almost trace by the chain of hills, or from the want of them...The hilly region, for instance, which extends from the lowlands of Scotland to Derby, represents the millstone grit and mountain limestone, solid deposits of indurated sandstone and crystalline lime, that stand up amid the landscape, like the harder strata on the wave-worn sea coast...On both sides of this mountainous tract there are level plains of vast extent, that begin to form on the one side near Newcastle, and at Lancaster on the other, and which, uniting at Wiskworth, sweep on to the Bristol Channel in the diagonal line of the English formations...These level plains represent the yielding semi-coherent new red sandstone of England. The denuding agents have worn it down in the way we find the soft shale-beds worn down on the sea shore...On the west we see it flanked by the old red sandstone and Silurian systems of Wales and western England — formations solid enough to form a hilly country ; and on the east by a long hilly range that, with little interruption, traverses England diagonally from Whitby to Lyme Regis...This elevated line is the oolitic

formation, and it owes its existence to those coralline reefs and firm calcareous sandstone of the system that is so extensively used by the architect... Another series of hilly ridges, somewhat more complicated in their windings, but generally running parallel to the oolite, and casting off spurs to the east, represents the upper and lower chalks of the beautifully undulating Downs — of a large extent of south-western England; while the softer weald, gault, green sand, and deposits of gravel and clay we find occupying the level plains or wide shallow valleys.

Hugh Miller.

PHYSICAL GEOGRAPHY.

ACTION OF CLIMATE UPON MAN.

SINCE man is made to acquire the full possession and mastery of his faculties by toil, and by the exercise of all his energies, no climate could so well minister to his progress in this work as the climate of the temperate continents. It is easy to understand this.

An excessive heat enfeebles man ; it invites to repose and inaction. In the tropical regions the power of life in nature is carried to its highest degree ; thus, with the tropical man, the life of the body overmasters that of the soul ; the physical instincts of our nature, those of the higher faculties ; passion, sentiment, imagination, predominate over intellect and reason ; the passive faculties over the active faculties... A nature too rich, too prodigal of her gifts, does not compel man to snatch from her his daily bread by his daily toil. A regular climate, the absence of a dormant season, render forethought of little use to him. Nothing invites him to that struggle of intelligence against nature, which raises the forces of man to so high a pitch, but which would seem here to be hopeless... Thus he never dreams of resisting this all-powerful physical nature ; he is conquered by her ; he submits to the yoke ; and becomes again the animal man.

In the temperate climates all is activity, movement. The alternations of heat and cold, the changes of the seasons, a fresher and more bracing air, incite man to a constant struggle, to forethought, to the vigorous employment of all his faculties... A more economical nature yields nothing except to the sweat of his brow ; every gift on her part is a recompense for effort on his. Less mighty, less gigantesque, even while challenging man to the conflict, she leaves him the hope of victory ; and if she does not show herself prodigal, she grants to his active and intelligent labor more than his necessities require ; she gives him ease and leisure, which permit him to cultivate all the lofty faculties of his higher nature... Here physical nature is not a tyrant, but a useful helper ; the active faculties, the

understanding, and the reason rule over the instincts and the passive faculties ; the soul over the body ; man over nature.

In the frozen regions, man also contends with nature, but it is with a niggardly and severe nature ; it is a desperate struggle, a struggle for life and death. With difficulty, by force of toil, he succeeds in providing for himself a miserable support, which saves him from dying of hunger and hardships during the tedious winters of that climate. No higher culture is possible under such unfavorable conditions.

The man of the tropical regions is the son of a wealthy house. In the midst of the abundance which surrounds him, labor too often seems to him useless ; to abandon himself to his inclinations is a more easy and agreeable pastime. A slave of his passions, an unfaithful servant, he leaves uncultivated and unused the faculties with which God has endowed him. The work of improvement is with him a failure.

The man of the polar regions is the beggar, overwhelmed with suffering, who, too happy if he but gain his daily bread, has no leisure to think of anything more exalted.

The man of the temperate regions, finally, is the man born in ease, in the *golden mean*, which is the most favored of all conditions. Invited to labor by everything around him, he soon finds, in the exercise of all his faculties, at once progress and well-being.

Thus if the tropical continents have the wealth of nature, the temperate continents are the most perfectly organised for the development of man. They are opposed to each other, as the body and the soul, as the inferior races and the superior races, as savage man and civilised man, as nature and history. This contrast, so marked, cannot remain an open one ; it must be resolved. The history of the development of human societies will give us the solution, or at least will permit us to obtain a glimpse of the truth.

Grayot.

THE EFFECTS OF THE FORM AND RELATIVE SITUATION OF LAND.

In physics, nothing is fortuitous, nothing unimportant. Everything depends on a law ordained in wisdom to bring about certain results.

Is the question regarding forms of contour? Nothing characterises Europe better than the number and variety of its indentations, of its peninsulas, and of its islands... Suppose, for a moment, that beautiful Italy, and Greece with its entire

Archipelago, were added to the central mass, and augmented Germany or Russia by the number of square miles they contain; this change of form would not give us another Germany, but we should have an Italy and a Greece the less... Unite with the body of Europe all its islands and peninsulas into one compact mass, and instead of this continent, so rich in various elements, you will have a New Holland with its dreary uniformity.

Do we look to the forms of relief? Is it a matter of indifference, whether an entire country is elevated into the dry and cold regions of the atmosphere, like the central table-land of Asia, or is placed on the level of the ocean? See under the same sky, the warm and fertile plains of Hindostan, adorned with the brilliant vegetation of the tropics, and the cold and desert plateaux of Upper Tibet; compare the burning regions of Vera Cruz and its fevers, with the lofty plains of Mexico, and its perpetual spring; the immense forests of the Amazon, where vegetation puts forth all its splendors, and the desolate summits of the Andes,—and you have the answer.

Let us look to relative position. Is it not to their position that the three peninsulas of the south of Europe owe their mild and soft climate, their lovely landscapes, their relation to other countries, and their social life? ... Is it not to their situation that the two great peninsulas of India owe their rich nature, and the conspicuous part which one of them, at least, has played in all ages? Place them on the north of their continents, Italy and Greece become a Scandinavia, and India a Kamtschatka... Europe owes its temperate atmosphere to its position relatively to the great marine and atmospheric currents, and to the vicinity of the burning regions of Africa. Place it to the east of Asia, it would be a frozen peninsula.

Suppose that the Andes were transferred to the eastern coast of South America, so as to hinder the trade wind from bearing the vapors of the ocean into the interior of the continent, the plains of the Amazon and Paraguay would be nothing but a desert... In the same manner, if the Rocky Mountains bordered the eastern coast of North America, and closed against the nations of the east and of Europe the entrance to the rich valley of the Mississippi; or if that immense chain extended from east to west across the northern parts of the continent, and barred the passage of the polar winds which now rush southward unobstructed; or if, even preserving all the great present features of this continent, we suppose only that the interior plains were slightly inclined towards the north, and that the Mississippi ran into the Frozen Ocean, the relations of warmth

and moisture, the climate, and with it the vegetation, and the animals, would undergo the most important modifications; and these mere changes of form, and of relative position, would have an incalculable influence upon the destinies of human society.

It is, then, from the *forms* and the *relative situation* of the great masses of land, modifying the influence of the forces of nature, that necessarily flow all the great phenomena of the physical and individual life of the continents, and their functions in the great whole.

QUALIFYING INFLUENCE OF THE WATER ON THE LAND CLIMATE.

It is important to mark the difference in those climates influenced by land, and those affected by the sea. This difference is owing substantially to the peculiar physical properties of the water and of the land... Water has a great capacity for heat, but a feeble conducting power: it grows warm but slowly in the rays of the sun. The evaporation also being considerable, produces a cooling which farther tempers the heat received at the surface. The superficial layer thus growing cool, the cooled molecules become heavy, sink down, and give way to the warmer molecules of the inferior strata.

Thus the heating and cooling are very deliberate, and do not reach the extremes. The air itself, by its contact, shares in the uniformity of temperature which belongs to the surface of the waters, and which, combined with the abundance of vapors that saturate the atmosphere, gives to the *sea climate* its peculiar character.

It is quite different with the surface of the soil, of which the particles are fixed. The soil rapidly absorbs the solar rays; the superficial layer is the more heated, since it cannot be displaced, as in the water, by another, and it soon attains an elevated temperature...But for the same reason, the ground easily loses heat by radiation, whether during the nights or the cold days; and the loss is so much the greater, as the radiation is favored by the inequalities of the surface, and the transparency of an atmosphere more dry, and less charged with clouds than that which rests upon the sea...The lands removed from the influence of the oceans, have then a climate characterised by the extremes of cold and heat, by more violent changes, and a drier atmosphere. These are the essential features of the *continental climate*.

If we now observe the manner in which sea and land are affected with regard to their temperature, they being near each

other, and receiving the same degree of heat from the sun, we shall see that the sea is colder than the land during the day, and warmer during the night... In the same way, taking the different seasons of the year, in summer the sea is colder than the land, in winter it is warmer. It preserves the mean temperature, while the land experiences the extremes. It tends to soften all the differences, and to establish uniformity of climate.

The sea climate, then, is equable; it is also moist, and the sky often cloudy and rainy, in the high latitudes. The land climate is excessive, with violent changes, generally dry, and the sky usually clear.

It follows that the astronomical climate — that which is dependent on the latitude — is greatly modified by the presence or absence of the sea; and the distribution of heat through the year, for any place whatever, depends in no small degree on its proximity to, or its distance from, the ocean, and the consequent prevalence of the winds which blow from it.

Who does not see the powerful influence which such differences in the climatic conditions must exercise on all organised beings, and on vegetation in particular? While in green Ireland the myrtle grows in the open air, as in Portugal, without having to dread the cold of winter, the summer sun of the same climate does not succeed in perfectly ripening the plums and the pears, which grow very well in the same latitude on the continent... On the coasts of Cornwall and Devon, shrubs as delicate as the laurel or the camellia, are green through the whole year in the gardens, in a latitude at which, in the interior of the continents, trees the most tenacious of life can alone brave the rigor of the winters. On the other hand, the mild climate of England cannot perfectly ripen the grape, almost under the same parallel as the slopes which produce the delicious wines of the Rhine... At Astracan, on the northern shore of the Caspian, Humboldt says the grapes and fruits of every kind are as beautiful and luscious as in the Canaries and in Italy; the wines there have all the fire of those of the south of Europe; while in the same latitude, at the mouth of the Loire, the vine hardly flourishes at all. And yet, to a summer capable of ripening the southern fruits, succeeds a winter so severe, that the vine-dresser must bury the stock of his vines several feet in the earth, if he would not see them killed every year by the cold... It may be remembered that a part of the Russian army despatched for the conquest of Khiva — the region situated to the south of the sea of Aral — perished under the snows by cold of 20° below the zero of Fahrenheit, in a country situated under the same parallel as the Azores, where there reigns a

perpetual spring ; and where, in the midst of winter, the vegetation and the flowers display their most brilliant colours...It is in climates like that of Central Russia, that the camel, the inhabitant of burning deserts, and the reindeer of the frozen regions, meet together, and that nature seems to have brought together the climate of the poles and of the tropics.

On man himself the influence of a moist and soft climate makes itself felt, by a relaxation of the tissues and a want of tonic excitement. The insular Polynesians, as those of Tahiti and others, exhibit the mild, facile, and careless character which seems to be naturally the result of such a climate.

The continental climate does not give to the vegetation an appearance of such exuberance, but the variety of the soil, the frequent alternations of plains, table-lands, mountains, valleys, and of different aspects, secure to it an almost infinite variety of different species and forms...The animals are more vigorous and larger, the species more numerous, the types more varied. The lion, the tiger, the elephant, all the kings of the brute creation, have never lived elsewhere than on the continents, or on continental islands...Man himself is more animated, more active, more intelligent, and endowed with a stronger will ; in a word, life is more intense, and raised to a higher degree, by the variety and movement impressed upon it by the contrasts that form the very essence of this climate.

The ocean is the indispensable handmaid of the land. The sun, the great awakener of life, shoots his burning rays every day athwart the face of the waters. He causes the invisible vapors to rise, which, lighter than the air itself, unceasingly tend to soar into the atmosphere, filling it and constituting within it another aqueous atmosphere...In their ascending movement, they encounter the colder layers of the higher regions of the atmosphere, which have a cooling influence. They are condensed in vesicles, which become visible under the form of clouds and fogs. Then, borne along by the winds, whether invisible still or in the state of clouds, they spread themselves over the continents, and fall in abundant rains upon the ground which they fertilise...All the portion of the atmospheric waters not expended for the benefit of the plants and of the animals, nor carried off anew into the atmosphere by evaporation, returns by the springs and rivers to the ocean whence it came.

Thus the waters of the ocean, by this ever renewed rotation, spread themselves over the lands ; the two elements combine, and become a source of life, far richer and much superior to what either could have produced by its own forces alone.

THE RAINS AND THE WINDS.

The temperature, the winds, and the rain, having an intimate connection, each with the others, and playing alternately the part of cause and effect, the earth may conveniently be divided into two great zones: the one, that of periodical rains, or of the tropical regions; the other, that of variable rains, or of the temperate regions.

In the equatorial regions, where the course of temperature and winds is regular, that of rains is equally so; and instead of seasons of temperature, which are there unknown, the inhabitants draw the distinguishing line between the dry and the rainy seasons.

Whenever a trade-wind blows with its wonted regularity, the sky preserves a constant serenity and a deep azure blue, especially when the sun is in the opposite hemisphere; the air is dry and the atmosphere cloudless ... But in proportion as the sun approaches the zenith of a place, the trade-wind grows irregular, the sky assumes a whitish tint and becomes overcast, clouds appear, and sudden showers accompanied with fierce storms ensue. Showers occur more and more frequently, and turn at length into floods of rain, inundating the earth with torrents of water ... The air is at this time so damp that the inhabitants are in an incessant vapor bath. The heat is heavy and stifling, the body becomes dull and enervated; this is the period of those epidemical fevers that destroy so great a number of the settlers who have come from the temperate zones ... But vegetation puts on a new freshness and vigor; the desert itself becomes animated, and is overspread for a time with enchanting verdure, which furnishes pasture to thousands of animals. Shortly, however, the sun, passing on his annual progress, advances and pours down his vertical rays upon other places; the rains diminish, the atmosphere becomes once more serene, the trade-wind resumes its regularity, and the heaven shuts its windows again until the following season.

Such is the normal course of the tropical rains. They fall on each spot during the passage of the sun through the zenith. The heat is then so violent that the ascending current of air neutralises the horizontal trade-wind. It hurries the vapors to the heights of the atmosphere, and to the upper limit of the trade-wind, where they are condensed and fall down in a deluge of rain.

Now as the sun passes and repasses from one tropic to the other, it follows that there is in most intermediate places a twofold rainy season; the two periods of rain being more or

less closely connected in point of time, according to the distance of the place from the tropic.

We may conceive the prodigious effect such violent showers must produce upon the rivers. We can understand the secret of the overflowings of the Nile, once so mysterious, which are due to the circumstance, that the region of its sources receives the tropical rains.

Floods of forty feet and upwards are frequent at this season in the great rivers of South America; the Llanos of the Orinoco are for a time changed into an inland sea. The Amazon inundates the plains through which it flows for a vast distance. The Paraguay also forms lagoons, more than three hundred miles in length, which ooze away and evaporate during the dry season.

The quantity of water contained in the tropical atmosphere in the condition of transparent vapors, is always considerable. It is in proportion to the heat, which, being always very great, augments its capacity to a very high degree.

Even under the most serene sky, the air is still abundantly provided with vapor. It is this invisible water which, being absorbed by the plants and taken up by their large leaves, produces the vigorous vegetation, and causes the eternal verdure that fills us with astonishment, under a sky devoid of rain, and cloudless during more than half the year; while in our climate, from the failure of rain for a few weeks only, we see all verdure languish, and all the flowers perish for the lack of moisture.

The winds of the ocean striking the coasts of the continents and moistening them with their waters, penetrate into the interior, transport thither the vapors with which they are charged, and spread life and freshness on their path. But in proportion as they advance on their continental journey, they become more and more sparing of these beneficent waters; their provision at length becomes exhausted, and if the way is too long, — that is, if the continent is too extended, — they arrive at its interior, arid and parched, with the characters of a land wind.

However, there are circumstances which disturb or rather modify the general law; these circumstances are the form of relief of the land, the mountain chains and the plateaus, and their position in relation to the damp winds.

A wind loaded with vapor may pass over vast continental plains without dissolving into rain, because the temperature over a plain may remain the same through long spaces, or perhaps be higher than that of the sea wind which crosses it. There is then no agency to condense the vapors. We have an

example of this in the Etesian winds, which bear the vapors of the Mediterranean into the Sahara. They have no sooner passed the threshold of the desert, than the dry and hot air dissipates every cloud.

But it is not the same when the moist winds meet elevated objects, such as chains of mountains and high table-lands, in their transit. Forced to ascend the mountain sides, they are uplifted into the colder regions of the atmosphere; they feel the diminished pressure of the air, their expansion further assists the cooling process, and the air loses that capacity for holding the same quantity of vapors as before ... The vapors are condensed into clouds, which crown the summits of the mountains, hang upon their sides, and soon melt into abundant rains. If the sea wind passes over the chain, it descends the opposite side, dry and cold; it has lost all its marine character.

The mountain chains are then the great condensers placed here and there along the continents, to rob the winds of their treasures, to serve as reservoirs for the rain waters, and to distribute them afterwards, as they are needed, over the surrounding plains ... Their wet and cloudy summits seem to be untiringly occupied with this important work. From their sides flow numberless torrents and rivers, carrying in all directions wealth and life. Every system of mountains becomes the centre of a system of irrigation, which gives to its neighbourhood one of its choicest gifts ... From the operation of this power of condensation, there falls on the summits of the mountains more water than on their slopes, and at their foot there falls more than on the adjoining plains ... Besides, the side of the chain exposed to the sea winds receives a quantity of rain much beyond that which falls on the opposite side; so that the great systems of mountains not only divide terrestrial spaces, but separate different and often opposite climates.

Guyot's Earth and Man.

MOUNTAINS.

INFERIOR hills ordinarily interrupt, in some degree, the richness of the valleys at their feet; the grey downs of southern England, and treeless *coteaux* of central France, and grey swells of Scottish moor, whatever peculiar charm they may possess in themselves, are at least destitute of those which belong to the woods and fields of the lowlands... But the great mountains *lift* the lowlands on their sides. Let the reader imagine, first, the appearance of the most varied plain of some richly cultivated

country ; let him imagine it dark with graceful woods, and soft with deepest pastures ; let him fill the space of it to the utmost horizon with innumerable and changeful incidents of scenery and life ; leading pleasant streamlets through its meadows, strewing clusters of cottages beside their banks, tracing sweet footpaths through its avenues, and animating its fields with happy flocks, and slow wandering spots of cattle... And when he has wearied himself with endless imagining, and left no space without some loveliness of its own, let him conceive all this great plain, with its infinite treasures of natural beauty and happy human life, gathered up in God's hands from one edge of the horizon to the other, like a woven garment, and shaken into deep falling folds, as the robes droop from a king's shoulders ; all its bright rivers leaping into cataracts along the hollows of its fall, and all its forests rearing themselves aslant against its slopes, as a rider rears himself back when his horse plunges ; and all its villages nestling themselves into the new windings of its glens ; and all its pastures thrown into steep waves of greensward, dashed with dew along the edges of their folds, and sweeping down into endless slopes, with a cloud here and there lying quietly, half on the grass half in the air ; and he will have as yet, in all this lifted world, only the foundation of one of the great Alps... And whatever is lovely in the lowland scenery, becomes lovelier in this change : the trees, which grew heavily and stiffly from the level line of plain, assume strange curves of strength and grace as they bend themselves against the mountain side ; they breathe more freely, and toss their branches more carelessly as each climbs higher, looking to the clear light above the topmost leaves of its brother tree : the flowers, which on the arable plain fell before the plough, now find out for themselves unapproachable places, where year by year they gather into happier fellowship and fear no evil... And the streams which in the level land crept in dark eddies by unwholesome banks, now move in showers of silver, and are clothed with rainbows, and bring health and life wherever the glance of their waves can reach.

It may not be altogether profitless or unnecessary to review briefly the nature of the three great offices which mountain ranges are appointed to fulfil, in order to preserve the health and increase the happiness of mankind... Their first use clearly is to give motion to *Water*... Every fountain and river, from the inch-deep streamlet that crosses the village lane in trembling clearness, to the massy and silent march of the everlasting multitude of waters in Amazon or Ganges, owe their play, and purity, and power, to the ordained elevations of the earth...

Gentle or steep, extended or abrupt, some determined slope of the earth's surface is of course necessary, before any wave can so much as overtake one sedge in its pilgrimage ; and how seldom do we enough consider, as we walk beside the margins of our pleasant brooks, how beautiful and wonderful is that ordinance, of which every blade of grass that waves in their clear water is a perpetual sign, that the dew and rain fallen on the face of the earth shall find no resting-place ; shall find, on the contrary, fixed channels traced for them from the ravines of the central crests down which they roar in sudden ranks of foam, to the dark hollows beneath the banks of lowland pasture, round which they must circle slowly among the stems and beneath the leaves of the lilies ; paths prepared for them, by which, at some appointed rate of journey, they must evermore descend, sometimes slow and sometimes swift, but never pausing ; the daily portion of the earth they have to glide over marked for them at each successive sunrise, the place which has known them knowing them no more, and the gateways of guarding mountains, opened for them in cleft and chasm, none letting them in their pilgrimage ; and, from far off, the great heart of the sea calling them to itself ! Deep calleth unto deep. ... I know not which of the two is the more wonderful,—that calm, gradated, invisible slope, of the champaign land, which gives motion to the stream, or that passage cloven for it through the ranks of hill, which, necessary for the health of the land immediately around them, would yet, unless so supernaturally divided, have fatally intercepted the flow of the waters from far-off countries.

When did the great spirit of the river first knock at those adamantine gates ? When did the porter open to it, and cast his keys away for ever, lapped in whirling sand ? I am not satisfied—no one should be satisfied—with that vague answer, The river cut its way. Not so. The river *found* its way...I do not see that rivers, in their own strength, can do much in cutting their way ; they are nearly as apt to choke their channels up, as to carve them out. Only give a river some little sudden power in a valley, and see how it will use it...Cut itself a bed ? Not so, by any means, but fill up its bed, and look for another, in a wild, dissatisfied, inconsistent manner. Any way, rather than the old one, will better please it ; and even if it is banked up and forced to keep to the old one, it will not deepen, but do all it can to raise it, and leap out of it... And although, wherever water has a steep fall, it will swiftly cut itself a bed deep into the rock or ground, it will not, when the rock is hard, cut a wider channel than it actually needs,

so that if the existing river beds, through ranges of mountain, had in reality been cut by the streams, they would be found wherever the rocks are hard, only in the form of narrow and profound ravines,—like the well-known channel of the Niagara below the fall, not in that of extended valleys.

The valley of the Rhone may, though it is not likely, have been in a great part excavated in early time by torrents, a thousand times larger than the Rhone; but it could not have been excavated at all, unless the mountains had been thrown at first into two chains, between which the torrents were set to work in a given direction. And it is easy to conceive how, under any less beneficent dispositions of their masses of hill, the continents of the earth might either have been covered with enormous lakes, as parts of North America actually are covered; or have become wildernesses of pestiferous marsh; or lifeless plains, upon which the water would have dried as it fell, leaving them for the great part of the year desert.

Nor is this giving of motion to water to be considered as confined only to the surface of the earth. A no less important function of the hills is in directing the flow of the fountains and springs from subterranean reservoirs... There is no miraculous springing up of water out of the ground at our feet; but every fountain and well is supplied from a reservoir among the hills, so placed as to involve some slight fall or pressure, enough to secure the constant flowing of the stream. The facility given to us in most valleys, of reaching by excavation some point whence the water will rise to the surface of the ground in perennial flow, is entirely owing to the concave disposition of the beds of clay or rock raised from beneath the bosom of the valley into ranks of enclosing hills.

The second great use of mountains is to maintain a constant change in the currents and nature of the *Air*. Such change would, of course, have been partly caused by differences in soils and vegetation, even if the earth had been level; but to a far less extent than it is now by the chains of hills, which, exposing on one side their masses of rock to the full heat of the sun, increased by the angle at which the rays strike on the slope, and on the other casting a soft shadow for leagues over the plains at their feet, divide the earth not only into districts, but into climates, and cause perpetual currents of air to traverse their passes, and ascend or descend their ravines, altering both the temperature and nature of the air as it passes in a thousand different ways... They moisten it with the spray of their waterfalls, suck it down and beat it hither and thither in

the pools of their torrents, close it within clefts and caves, where the sunbeams never reach, till it is as cold as November mists; then send it forth again to breathe softly across the slopes of velvet fields, or to be scorched among sunburnt shales and grassless crags... Then they draw it back in moaning swirls through clefts of ice, and up into dewy wreaths above the snow-fields; pierce it with the strange electric darts and flashes of mountain fire, and tossing it high in fantastic storm-cloud, as the dried grass is tossed by the mower, only suffering it to depart at last, when chastened and pure, to refresh the faded air of the far-off plains.

The third great use of mountains is to cause perpetual change in the *soils* of the earth. Without such provision the ground under cultivation would in a series of years become exhausted, and require to be upturned laboriously by the hand of man. But the elevations of the earth's surface provide for it a perpetual renovation... The higher mountains suffer their summits to be broken into fragments, and to be cut down in sheets of massy rock, full of every substance necessary for the nourishment of plants; these fallen fragments are again broken by frost, and ground by torrents into various conditions of sand and clay — materials which are distributed perpetually by the streams farther and farther from the mountain's base... Every shower which swells the rivulets enables their waters to carry certain portions of earth into new positions, and exposes new banks of ground to be mined in their turn. That turbid foaming of the angry water, — that tearing down of bank and rock along the flanks of its fury, — are no disturbances of the kind course of nature; they are beneficent operations of laws necessary to the existence of man and to the beauty of the earth... The process is continued more gently, but not less effectively, over all the surface of the lower undulating country; and each filtering thread of summer rain which trickles through the short turf of the uplands is bearing its own appointed burden of earth, to be thrown down on some new natural garden in the dingles below.

It is not, in reality, a degrading, but a true, large, and ennobling view of the mountain ranges of the world, if we compare them to heaps of fertile and fresh earth, laid up by a prudent gardener beside his garden-beds, whence, at intervals, he casts on them some scattering of new and virgin ground. That which we so often lament as a convulsion or destruction is nothing else than the momentary shaking of the dust from the spade... The winter floods, which inflict a temporary devastation, bear with them the elements of succeeding fertility,

the fruitful field is covered with sand and shingle in momentary judgment, but in enduring mercy ; and the great river which chokes its mouth with marsh, and tosses terror along its shore, is but scattering the seeds of the harvests of futurity, and preparing the seats of unborn generations.

I have not spoken of the local and peculiar utilities of mountains. I do not count the benefit of the supply of summer streams from the moors of the higher ranges, of the various medicinal plants which are nested among their rocks, of the delicate pasturage which they furnish for cattle, of the forests in which they bear timbers for shipping, the stones they supply for building, or the ores of metal which they collect into spots open to discovery, and easy for working. All these benefits are of a secondary or a limited nature... But the three great functions which I have just described, — those of giving motion and change to water, air, and earth,—are indispensable to human existence ; they are operations to be regarded with as full a depth of gratitude as the laws which bid the tree bear fruit, or the seed multiply itself in the earth ... And thus those desolate and threatening ranges of dark mountains, which, in nearly all ages of the world, men have looked upon with aversion or with terror, and shrunk back from as if they were haunted by perpetual images of death, are, in reality, sources of life and happiness, far fuller and more beneficent than all the bright fruitfulnesses of the plain. The valleys only feed ; the mountains feed, and guard, and strengthen us... We take our ideas of fearfulness and sublimity alternately from the mountains and the sea ; but we associate them unjustly. The sea wave, with all its beneficence, is yet devouring and terrible ; but the silent wave of the blue mountain is lifted towards heaven in a stillness of perpetual mercy ; and the one surge, unfathomable in its darkness, the other, unshaken in its faithfulness, for ever bear the seal of their appointed symbolism :

“ *Thy righteousness is like the great mountains :
Thy judgments are a great deep.*”

Ruskin.

THE OCEAN.

THE ocean forms the grand receptacle of all the surplus waters of the globe ; the basin into which the greater number of rivers disembogue their liquid contents ; the reservoir where they are held in store, ready to be again drawn off by the process of evaporation, when they are again required to perform their part in administering to the nourishment and refreshment of organised

beings, or of effecting changes in the other departments of the physical world.

The area covered by the waters of the ocean is very great. In the present state of our knowledge, it is not possible precisely to determine its extent; but, according to the nearest estimate that can be formed of the surface occupied by continents and islands, it is supposed that not less than three-fourths of the globe are covered by the waters of the ocean... This difference in the relative amount of land and water is remarkable. But "who will venture to assert," observes Dr. Prout, "that the distribution of land and sea, as they now exist, though apparently so disproportionate, is not actually necessary, as the world is at present constituted?... Let us conceive what would happen from the simple inversion of the quantities of dry land and sea as they now exist. In such a case, there would not be enough of water to preserve the surface of the land in a moist state, and the greater part would be in the situation of the deserts of Africa, and totally unfitted for the habitation of human beings."

The ocean consists of one vast continuous fluid mass, which, owing to the perfect mobility of its parts among each other, and also to its natural gravity, flows into, and occupies the great depressions on the earth's surface which constitute its bed, whilst the attraction of gravitation retains it in this its assigned position in the universe... The hydrostatic law of the equilibrium of fluids, moreover, causes this liquid mass to maintain a general level surface in all parts of the globe, whatever may be the undulations of its bed. And thus it appears that, whilst the well adjusted distribution of land and water serves to maintain the globe in its present condition, the fundamental laws of nature retain the mighty ocean in the basin prepared for its reception... The earth is thus "covered by the deep as with a garment;" and this, being perpetually renewed, never perishes, never exhibits symptoms of decay; but apparently retains the same qualities, and possibly the same proportion as in "remotest e'd."

The depth of the ocean is a subject on which very little has hitherto been satisfactorily determined. That it varies greatly, there can be no question; for wherever its bed has been reached by the sounding line, it has presented inequalities similar to those occurring on the surface of the dry land. Its mean or average depth is supposed not to exceed the mean height of the continents and islands above its level. Generally speaking, the greatest depths appear to occur in the broad sea, and the more shallow parts in channels and straits, or near islands... The

mean depth of the sea round the coasts of England has been supposed not to exceed 120 feet; and on those of Scotland to be about 360 feet; whilst on the western coast of Ireland it is considered to be about 2000 feet. In the North Atlantic Ocean Mr. Scoresby sounded to the depth of 7200 feet, without the lead touching the ground; and in a recent expedition sent out by the French government, soundings were made in the Austral or Southern Ocean, at the distance of about 300 miles from Cape Horn, when, although 2500 fathoms of line were let down, the lead did not reach the bottom... The hauling in of this line, although carried on by sixty sailors, lasted for more than two hours; and after making due allowance for the inclination of the line, it was supposed that the lead had descended 14,460 feet, without arriving at the floor of the ocean; and, consequently, that the depth of the sea in that particular locality must exceed that amount... There appears, therefore, reason to conclude that "if the sea were dried up, its bed would," to use the words of M. Arago "present vast regions, mighty valleys, immense abysses, as much depressed below the general surface of the continents, as the principal summits of the Alps are elevated above its level." Experiments of this kind, even though conducted upon the most skilful manner, cannot, however, be wholly depended on for the determination of great depths; because, since the pressure from the incumbent mass of waters becomes very great, the lead may be drawn out of the perpendicular direction, by currents of which it may encounter more than one flowing in different directions.

The waters of the ocean are, as is well known, not pure, but hold in solution a variety of saline matter, amongst which, by far the most abundant is chloride of sodium, or common salt, which in general constitutes above two-thirds of the whole saline ingredients... These saline contents of the ocean are of very great importance in the economy of nature... The purer water is, the more rapidly does it pass off in vapor; and it may be questioned whether, if the ocean were composed of fresh water, the mass of waters could be maintained in its present condition, owing to the greater rapidity with which the process of evaporation would be carried on... And thus, as has been observed by Dr. Prout, "there is reason to believe that the saline matter contained in the ocean contributes in no small degree to the stability of the water; and that an ocean of fresh water would undergo changes which would probably render it incompatible with animal life. The waters of such an ocean might even be decomposed, so as seriously to interfere with the other arrangements of nature."

The freezing point of water is also affected by its saline contents. The freezing point of fresh water is 32° Fahrenheit, that of sea water 28° or 29°. The waters of the ocean, therefore, require a greater degree of cold than those of a fresh-water lake to convert them into ice... From this circumstance, and from the great depth and extent of the ocean, its waters resist freezing more effectually than even running water; and are, therefore, rarely covered with ice, except in latitudes where the cold is exceedingly intense, and of very long duration. The beneficial results accruing from this natural arrangement are that the surface of the ocean, that important "highway of nations," is less liable to be encumbered with ice, and the traffic on its waters to be impeded, than would have occurred had other conditions prevailed.

Zornlin.

ASPECTS OF THE OCEAN.

WHO ever gazed upon the broad sea without emotion? whether seen in stern majesty, hoary with the tempest, rolling its giant waves upon the rocks, and dashing with resistless fury some gallant bark on an iron-bound coast; or sleeping beneath the silver moon, its broad bosom broken but by a gentle ripple, just enough to reflect a long line of light, a path of gold upon a pavement of sapphire; who has looked upon the sea without feeling that it has power?... Perhaps there is no earthly object, not even the cloud-cleaving mountains of an alpine country, so sublime as the sea in its severe and marked simplicity. Standing on some promontory, whence the eye roams far out from the unbounded ocean, the soul expands, and we conceive a nobler idea of the majesty of that God, who holdeth "the waters in the hollow of his hand."... But it is only when on a long voyage, climbing day after day to the giddy elevation of the masthead, one still discerns nothing in the wide circumference but the same boundless wastes of waters, that the mind grasps anything approaching an adequate idea of the grandeur of the ocean.

There is a certain indefiniteness and mystery connected with it in various aspects, that gives it a character widely different from that of the land. At times, in peculiar states of the atmosphere, the boundary of the horizon becomes undistinguishable; and the surface, perfectly calm, reflects the pure light of Heaven in every part, and we seem alone in infinite space, with nothing around that appears tangible and real, save the ~~ship~~

beneath our feet...At other times, particularly in the clear waters of the tropical seas, we look down into unmeasured depths under the vessel's keel, but still find no boundary, the sight is lost in one uniform transparent blueness.

Mailed and glittering creatures of strange form suddenly appear, play a moment in our sight, and with the velocity of thought vanish into the boundless depths. The very birds that we see in the wide wastes are mysterious; we wonder whence they come, whither they go, how they sleep, homeless and shelterless as they seem to be...The breeze so fickle in its visitings, rises and dies away; "but thou knowest not whence it cometh and whither it goeth;" the night wind moaning by soothes the watchful helmsman with gentle sounds that suggest to him the whisperings of unseen spirits; or the tempest, shrieking and groaning among the cordage, turns him pale with the anticipation of a watery grave.

The ocean is never perfectly at rest; even between the tropics, in what are called the calm latitudes, where the impatient seamen for weeks together looks wistfully but vainly for the welcome breeze to waft his vessel onwards, which, like that of the "Ancient Mariner," is almost as

"idle as a painted ship,
Upon a painted ocean;"

even here the smooth and glittering surface is not entirely at rest; for long gentle undulations, which cause the taper mast to describe lines and angles upon the sky, are sufficiently perceptible to tantalise the mariner with the thought that the breeze which mocks his desires is blowing freshly and gallantly elsewhere.

The ocean is the highway of commerce. God seems wisely and graciously to have ordained that man should not be independent, but under perpetual obligation to his fellow-man, and that distant countries should ever maintain a mutually beneficial dependence on each other...He might have made every land produce every necessary and comfort of life in ample supply for its own population; the result of the separation has been, generally, an easy means of exchanging home for foreign productions, which constitutes commerce.

It is lamentably true that the evil passions of men have often perverted the facilities of communication for purposes of destruction, yet the sober verdict of mankind has for the most part been, that the substantial blessings of friendly commerce are preferable to martial glory...And the transport of goods of considerable bulk and weight, or of such as are of a very

perishable nature, would be so difficult by land, as very materially to increase their cost; while land communication between countries tens of thousands of miles apart, would be attended with difficulties so great as to be practicably insurmountable.

Add to this the natural barriers presented by lofty mountain ranges and impassable rivers, as well as the dangers arising from ferocious animals and from hostile nations, and we shall see that, with the existing power and skill of man, commerce in such a condition would be almost unknown, and man would be little removed from a state of barbarism... The ocean, however, spreading itself over three-fourths of the globe, and penetrating with innumerable windings into the land, so as to bring, with the aid of the great rivers, the facilities of navigation comparatively near to every country, affords a means of transport unrivaled for safety, speed, and convenience.

ICEBERGS AND BOULDERS.

ICEBERGS or ice-mountains are formed from accumulations of ice and snow, either independently, or in previous connection with the glaciers of the polar seas, which being undermined by the water, or intersected by the melting snow flowing through their crevices, become detached; and, falling into the water, are floated out to sea... Icebergs are very numerous in high latitudes; in Baffin's Bay they are sometimes met with two miles in length, and nearly half that width. They are also of frequent occurrence in Hudson's Bay.

An ice-field, when in motion, coming in contact with another moving in a contrary direction, produces a dreadful shock. Let the reader picture to himself a body of more than ten thousand millions of tons in weight meeting with a similar body in motion... "No description," says Sir John Ross, "can convey an idea of a scene of this nature; and as to the pencil, it cannot represent motion or noise. And to those who have not seen a northern ocean in winter,—who have not seen it, I should say, in a winter's storm,—the term ice, exciting but the recollection of what they know only at rest, in an inland lake or canal, conveys no idea of what it is the fate of an arctic navigator to witness and to feel... But let them remember that ice is a stone,—a floating rock when in the stream, a promontory or an island when aground—not less solid than if it were a land of granite. Then let them imagine, if they can, these mountains of crystal hurled through a narrow

strait by a rapid tide ; meeting, as mountains in motion would meet, with a noise like thunder ; breaking from each other's precipices huge fragments, or rending each other asunder, till, losing their former equilibrium, they fall over headlong, lifting the sea around in breakers, and whirling it in eddies ; whilst the flatter fields of ice, forced against these masses, or against the rocks, by the wind and the stream, rise out of the sea till they fall back on themselves, adding to the indescribable commotion and noise which attend these concussions. The strongest ships can no more withstand the contact of two ice-fields than a sheet of paper can stop a musket ball.

"It is far, however, from being an unmixed evil; and estimating all our adventures with and among it, I might not be wrong in saying, that it had been much oftener our friend than our enemy... We could not, indeed, command the icebergs to tow us along, to arrange themselves about us so as to give us smooth water in the midst of a raging sea ; nor, when we were in want of a harbor, to come to our assistance, and surround us with piers of crystal, executing in a few minutes works as effectual as the breakwaters of Plymouth or Cherbourg ; but they were commanded by Him who commands all things, and they obeyed."

Few sights in nature are more imposing than that of the huge solitary iceberg, as, regardless alike of wind and tide, it steers its course across the face of the deep far away from land. Like one of the Frost-giants of Scandinavian mythology, it issues from the portals of the north armed with great blocks of stone... Proudly it sails on. The waves that dash in foam against its sides shake not the strength of its crystal walls, nor tarnish the sheen of its emerald caves. Sleet and snow, storm and tempest, are its congenial elements... Night falls around, and the stars are reflected tremulously from a thousand peaks, and from the green depths of "caverns measureless to man." Dawn again arises, and the slant rays of the rising sun gleam brightly on every projecting crag and pinnacle, as the berg still floats steadily on ; yet, as it gains more southern latitudes, what could not be accomplished by the united fury of the waves, is slowly effected by the mildness of the climate... The floating island becomes gradually shrouded in mist and spume, streamlets everywhere trickle down its sides, and great crags ever and anon fall with a sullen plunge into the deep. The mass becoming top-heavy, reels over, exposing to light rocky fragments still firmly imbedded. These, as the ice around them gives way, are dropped one by one into the ocean, until at last the iceberg itself melts away, the mists are dispelled, and sun-

shine once more rests upon the dimpled face of the deep... If, however, before this final dissipation, the wandering island should be stranded on some coast, desolation and gloom are spread over the country for leagues. The sun is obscured, and the air chilled ; the crops will not ripen ; and, to avoid the horrors of famine, the inhabitants are fain to seek some more genial locality until the ice shall have melted away ; and months may elapse before they can return again to their villages ... The iceberg melts away, but not without leaving well-marked traces of its existence. If it disappear in mid-ocean, the mud and boulders, with which it was charged, are scattered athwart the sea-bottom. Blocks of stone may thus be carried across profound abysses, and deposited hundreds of miles from the parent hill ; and it should be noticed, that this is the only way, so far as we know, in which such a thing could be effected.

Great currents could sweep masses of rock down into deep gulfs, but could not sweep them up again, far less repeat this process for hundreds of miles. Such blocks could only be transported by being lifted up at the one place and set down at the other ; and the only agent we know of capable of carrying such a freight, is the iceberg. In this way, the bed of the sea in northern latitudes must be covered with a thick stratum of mud and sand, plentifully interspersed with boulders of all sizes, and its valleys must gradually be filled up as year by year the deposit goes on... But this is not all. The visible portion of an iceberg is only about one-ninth part of the real bulk of the whole mass, so that if one be seen 100 feet high, its lowest peak may perhaps be away down 800 feet below the waves. Now it is easy to see that such a moving island will often grate across the summit and along the sides of submarine hills ; and when the lower part of the berg is roughened over with earth and stones, the surface of the rock over which it passes will be torn up and dispersed, or smoothed and striated, while the boulders imbedded in the ice will be striated in turn... But some icebergs have been seen rising 300 feet over the sea ; and these, if their submarine portions sank to the maximum depth, must have reached the enormous total height of 2700 feet—that is, rather higher than the Cheviot Hills. By such a mass, any rock or mountain-top existing 2400 feet below the surface of the ocean would be polished and grooved, and succeeding bergs depositing mud and boulders upon it, this smoothed surface might be covered up and suffer no change until the ocean-bed should be slowly upheaved to the light of day... In this way, submarine rock surfaces at all depths, from the coast line down to 2000 or 3000 feet, may be scratched and polished, and

eventually entombed in mud. And such has been the origin of the deep clay, which, with its accompanying boulders, covers so large a part of our country.

When this arctic condition of things began, the land must have been slowly sinking beneath the sea; and so, as years rolled past, higher and yet higher zones of land were brought down to the sea-level, where floating ice, coming from the north-west, stranded upon the rocks, and scored them all over as it grated along. This period of submergence may have continued until even the highest peak of the Grampians disappeared, and, after suffering from the grinding action of ice-freighted rocks, eventually lay buried in mud far down beneath a wide expanse of sea, over which there voyaged whole argosies of bergs.

When the process of elevation began, the action of waves and currents would tend greatly to modify the surface of the glacial deposit of mud and boulders, as the ocean-bed slowly rose to the level of the coast-line. In some places the muddy envelope was removed, and the subjacent rock laid bare, all polished and grooved. In other localities, currents brought in a continual supply of sand, or washed off the boulder mud and sand, and then re-deposited them in irregular beds; hence resulted those local deposits of stratified sand and gravel so frequently to be seen resting over the boulder clay... At length, by degrees, the land emerged from the sea, yet glaciers still capped its hills and choked its valleys; but eventually, a warmer and more genial climate arose, plants and animals, such as those at present amongst us, and some, such as the wolf, no longer extant, were ere long introduced; and eventually, as lord of the whole, man took his place upon the scene.

Geikie.

PHYSICS.

PROPERTIES OF MATTER.

WHATEVER fills space we call matter. In a loose way of speaking, we may say that matter is the substance of which everything in the universe is made. When matter is limited in any way, so as to form but one thing, we sometimes speak of it as a body or object ... If we think a little about this property of filling space which belongs to all matter, we shall easily be led to see that no *two* bodies can possibly occupy the same space at the same time. A dog and a tree cannot both stand at once in the very same spot. The teaspoon which we put into our tea *seems* only to be in the same place as our tea ; before it gets down to the bottom of the cup, it must necessarily push back the particles of the liquid, which are easily movable, and make the tea stand higher in the cup ... So a nail only *seems* to be in the same place with the bit of wood in which it is ; as it is driven in, it pushes the particles of wood on each side of it, in order that they may make room for it. This property of matter we call impenetrability.

It is quite impossible for us to think of anything which has not some size and some shape ; *size* and *shape* then are said to be essential properties of matter.

Again, any body, or quantity of matter, may be divided, or separated into parts by the application of proper means. Grains of corn are ground into flour : metals are beat into thin leaves, or ground to glittering dust ; or they may be drawn into wires so fine that 140 of them put together are no thicker than a single silk thread. This property of matter we call divisibility. ... It is wondrous to think how far divisibility may be carried. A soap bubble is only a thin film made of water and soap, and does not exceed in thickness the 2,500,000th part of an inch. It has been ascertained, by a celebrated philosopher, that it would require 4,000,000 of the threads of a gossamer spider to be as thick as a common hair. Animalcules, — that is, animals too small to be seen by the naked eye, but which are seen by

microscopes,—are some of them so small that a million of them heaped together would be no bigger than a grain of sand. What then must be the size of the organs in the bodies of these animals !

The cause of our smelling anything, such as a rose, or eau de Cologne, is its sending off continually into the air extremely small particles, which affect our noses. Now a single grain of musk has been known to perfume a room for twenty years, and then it appeared no smaller than at first. How small indeed must these particles have been, which continued to spread themselves through the whole of the room for twenty years, without apparently reducing the size of the musk !

In speaking of this property of matter, there is one truth which should not be forgotten ; — namely, that nothing is ever destroyed or lost. What we are in the habit of calling destruction is only change. The candle burns away to nothing—so it seems at least ; but the chemist knows better, and can prove that its particles have only been divided and changed. Part of it has gone into vapor, part into the ashes which remain ; and it is possible so to burn the candle, that all the parts could be again collected. They would then, in their new shape, be found to weigh just as much as the candle did before being lighted. Even what we call the corruption of the human body is only a change of all its parts into new forms, which continue fulfilling other purposes in nature.

There is another property of matter expressed by the word *inertia*. This word represents two facts respecting matter,—namely, that when a body is at rest it will remain so, unless moved by something else ; and when it is in motion, it will continue to move for ever unless something else stops it. It would never stop of itself ... Some consequences of this property are interesting. I dare say some of you have been in a railway carriage when it was starting : perhaps it started before you expected it, and backwards you went against the wooden wall of the carriage, a little to the detriment of your head : the carriage moved, and took your feet, which were on the floor, with it ; but your body being at rest tended to remain at rest : it was therefore left behind, and caused you to tumble backward ... On the other hand, when the carriage pulls up suddenly, if you are not watching, you suffer in a contrary direction — you fall forward, to the detriment of your nose. The carriage stops ; the portion of your body in contact with it, stops too ; but your head and shoulders, being free and in motion, tend to remain in motion. They go forward, and you tumble. Similarly, when a ship strikes a rock suddenly,

every loose thing on board is dashed towards the bows, and sailors and passengers tumble in the same direction ... You will now understand why it is so dangerous to leap out of a railway carriage before it has come to a stand-still. If you leap while it is moving, your body has the same forward motion as the carriage. Your feet touch the ground and are stopped; your body goes on in the same direction as the carriage; therefore you are liable to fall forward and be killed. Many accidents arise from such imprudence.

In the same way, and for the same reason, an inexperienced rider is pitched over his horse's neck when it suddenly pulls up. The hare seems to have an instinctive knowledge of the property of inertia. When chased by the hounds she suddenly doubles, as it is called; that is, she contrives if possible to be running down a hill at her utmost speed: at the moment when the hounds are getting close to her, she suddenly turns and runs up the hill. The dogs, with all the force of their bodies moving down the hill, cannot stop at once to turn; they run on, in spite of themselves, a good way past the point at which puss turned; in the meantime she is making good her way in the contrary direction, to repeat the same trick when they get up to her again ... When boys are jumping, or playing at leapfrog, they can always take a longer leap by having a good run before they spring. The motion their bodies had acquired in running continues, and joins with the new force they give themselves when they take the spring ... Because of this tendency of matter when in rest to remain in rest, it is more difficult to set a cart in motion than to keep it so. Hence the strong pull which you see horses give at starting. When the sails of a ship are loosened to the breeze, the vessel moves slowly at the first, but gradually its speed increases as the force of the breeze overcomes the inertia of its mass.

ATTRACTION.

Sir Isaac Newton ascertained it to be a fundamental law of nature that every atom or particle of matter is drawn or attracted by every other particle of matter. A stone if let go from the hand falls to the ground because the earth draws it. We are accustomed to say the stone falls because it is heavy, but this very heaviness is the result of the earth drawing the stone down towards itself... If you take a basin of water, and get three or four needles, you may easily show yourself an example of the attractive powers in nature. Dry the needles well, and drop them cautiously upon the surface of the water

in the basin. You will find that the needles do not sink if they be carefully let fall. Suppose that you have put them all upon the water at the distance of about an inch from each other. Watch them. They gradually approach each other, at first slowly, and then as they get nearer very quickly, till at last all the needles will be found floating on the water, quite close alongside of each other... In the same way, if you throw a few pieces of wood or cork and loose straws into a tubfull of water, and stir the water about so as to scatter them all over the surface of the water, they will in a short time after the water has settled be all found collected together in the middle of the tub... On the morning after a wreck the broken spars and casks, and planks and boxes, which the raging waves had scattered about, are generally all found floating together on the becalmed sea—drawn together by this power which we call attraction.

Attraction displays itself in several ways, of which the two following especially demand our attention here: —

1st. Particles of matter in actual contact attract each other.

2nd. Objects separated by a great distance attract each other.

The first is called Attraction of Cohesion, the second Attraction of Gravitation.

Attraction of Cohesion.

In a heap of sand the single piles fall easily separate from one another; but a piece of sandstone requires force to break it, that is, to separate its parts. The kind of attraction which holds the parts of the stone together is cohesive attraction... It may be described as the quality in nature which causes matter to cohere or stick together. This force only acts at extremely small distances. You may break a piece of wood or glass, but you cannot restore it again, because you cannot by any means put the two broken parts together so closely as that they will be cohesively attracted. Only with fluids and soft mobile bodies like a piece of putty, or wet chalk, can this be done.

The particles of solids have strong cohesive attraction for one another; of fluids not so strong, of gases scarcely any. Heat destroys attraction of cohesion. You may see this in ice. It is a solid, its parts cohere strongly. Take it into a warm place, the heat melts it, it becomes a fluid, and its parts do not cohere strongly; put it on a hot fire and boil it, it becomes steam, and its parts spread all over the room; they do not seem to cohere at all... Thus the difference between solids, fluids and gases,—in one or other of which states all things are,—is only a difference

in the attraction of cohesion of things, produced most probably by the action of heat upon them.

There are other things besides heat which affect the strength of cohesion. The arrangement of the particles of a body is one. You cannot cleave a piece of wood so easily across the fibres, as you can by cutting lengthways; and a piece of cast iron is much more brittle than a piece of wrought iron... All such expressions as hard, brittle, tough, soft, ductile, malleable, semi-fluid, limpid, are merely different ways of denoting different modifications of cohesion.

The cohesive attraction of the particles of bodies seems to have a tendency continually to arrange these particles in a certain definite form. In the case of fluids this is easily seen. By virtue of this tendency the particles of fluids arrange themselves all round a common centre, and take a spherical or round form... A small quantity of dew at the point of a leaf becomes a dewdrop; so tears run down the cheek, drops of rain run down the panes, and hail falls in little globes. Two round globes of mercury will run together and form one bigger globe... It is on this principle that shot is manufactured. The lead is melted and poured into a sieve, which is more than two hundred feet above the ground. It drops through the sieve, and by this law of cohesion forms itself into little globes as it comes through. These globes keep their shape as they are cooling. They are so high above the ground that they have time to cool before they reach it, so that when they do reach it they have become little round balls of solid lead, fit for the sportsman's use.

A more singular result of this law of definite arrangement of the cohesive particles of bodies is *the formation of crystals*.

You may all have noticed it in the regular shapes which pieces of alum and sugar-candy take; and you may watch the formation of crystals for yourselves by dissolving a little sugar of lead in hot water, and leaving it to cool slowly. If you leave a small piece of string hanging down into the bottle in which the sugar of lead is dissolved, you will find the string after a few hours covered with beautiful regularly formed crystals.

There is a kind of attraction, called capillary attraction, which seems to be a modification of attraction of cohesion. Dip a very small tube of glass into a vessel containing water or any fluid: such as ink. The water or ink inside of the tube will be much higher than that contained in the vessel... The sides of the glass tube draw the fluid up into it. Very narrow tubes are called hair or capillary tubes; the force therefore with which fluids are drawn up these tubes is called capillary attraction.

The narrower the capillary tubes, the higher fluids ascend in them; be they of wood, skin, or any other material, as well as glass. If the inner surface of them be kept well moistened by the liquid employed, it will rise ... Thus it is, that bodies called porous, like sponge, attract and retain fluids with great force, as the pores are only an infinite number of irregularly formed capillary tubes. The same may be seen in white sugar, wood, sandstone, and even in a heap of ashes ... If the end of a towel happens to be left in a basin of water, it will empty the basin. The spaces between the threads of the towel act like so many capillary tubes. The wick of a lamp or candle draws the oil or melted grease in the same way up to the flame; and blotting paper licks up ink on the same principle ... Near Seringapatam they make use of this principle in working their quarries. They drive a dry piece of wood into a crevice of the rock which they wish to split. In the evening the pores of the dry wood absorb the dew, the wood swells, and rends the rock so as often to tumble down large crags at once ... So it is, too, that the porous stones of which some houses are built often draw up the damp from the earth round them, and make the house unhealthy. Wise people, therefore, will always clear away all wet earthy matter from about the foundations of their houses.

Attraction of Gravitation.

The attraction of cohesion acts only between particles of the same nature when brought close enough together; we come now to consider that kind of attraction by which bodies, however far apart, and whatever their nature, are drawn towards each other. This is attraction of gravitation ... The nearer two bodies are to each other the greater is their mutual attraction; and the larger any body is, or the more the quantity of matter in it, the greater is its attractive force upon the objects around it. We see that all things which are free tend to fall towards the earth, because the earth is so much larger than any one of the things upon its surface that it draws them all to it ... Of course, these bodies in falling draw the earth also towards them by the power of attraction which they have; but their effect is so exceedingly little compared with that of the mass of the earth, that it is utterly impossible to perceive it.

The scientific statement of the law of gravitation is, that the attractive force is inversely as the squares of the distances between the two bodies; that is, in proportion as the square of the distance increases, in the same proportion attraction decreases,

and *vice versa*... Thus, if on the surface of the earth, which is the distance of its radius from its centre, a body weighs four pounds, at the distance of twice this radius it will weigh only one pound. Again, if at the distance of six times the radius a body weighs three pounds, at the distance of only twice the radius it would be nine times as much, or twenty-seven pounds; and on the earth's surface it would weigh four times as much, or 108 pounds... The moon is 240,000 miles from the earth, or about sixty times the length of the earth's radius. The square of 60 is 3600; and consequently the attractive force of the earth upon the moon, being less in proportion as the distance is greater, is only $\frac{1}{3600}$ part of what it would be if the moon were resting upon the earth's surface.

Bodies allowed to fall freely at the earth's surface, fall about sixteen feet in a second: it seems then to follow from the above, that a body let fall upon the top of a high mountain should fall *less* than that distance; and this is perfectly true. But the proportion which the highest mountain bears to the whole earth is so small that the difference is utterly imperceptible; so that at all places where it is possible for man to let objects fall, they fall at this uniform rate of about sixteen feet in a second.

As attraction of gravitation must necessarily act upon a single particle of matter, however minute, in the same way as it acts upon millions of particles cohering and forming one large object, it follows that the smallest atom should be drawn to the earth with the same speed as the largest stone; and this is true; in reality all things, however large or however small, are drawn to the earth with the velocity we have mentioned.

But our daily experience may suggest to us an apparent contradiction to this truth. A shilling and a feather let drop from a high window would certainly not both reach the pavement at the same time. The reason of this, however, is, that the air by acting upon the large surface which the feather presents in comparison with the shilling, has more power to resist the falling of the feather than it has that of the shilling; and accordingly if both be let fall at the same time from the top of a tall glass out of which the air has been extracted, they reach the bottom together.

If a heavy body, such as a leaden bullet, be hung upon a thread, it will not be able to fall, but will retain the thread in a position pointing directly towards the centre of the earth, and thereby indicating the direction of the attraction of gravitation.

This position is termed vertical, and the instrument that serves to indicate it is called the plummet. Builders use it in

judging of the uprightness of their walls. The direction that intersects the vertical line at right angles, is called the horizontal direction. Although all things tend towards the earth, it must not be forgotten that the attraction of bodies is mutual, and in proportion to the matter they contain ... Therefore any object, however small, exerts some degree of attraction upon the mass of the earth. If it were possible for us to bring any body of sufficient density and size down from the heavens towards the earth, we should feel the earth rising up to meet it ... It is thus that the planets, when they approach each other, are drawn out of their proper paths or orbits by mutual attraction. It is found, too, by experiment, that a plumb-line suspended in the neighbourhood of a large mountain is drawn out of the vertical groove.

All attraction of objects upon the earth exerts itself in a direction which points to the centre of the earth, and it is from the earth's centre that the influence of all the attractive force must be calculated; one would, therefore, naturally think that as a falling body approaches the centre of the earth its velocity should increase; or, as we may express the same truth, that its pressure downward, or weight, should be the greater ... The fact, however, contradicts this expectation. A body weighing a pound, would weigh less at the depth of a mile below the surface, and continually less and less as the depth increased, till at the centre of the earth its weight would be nothing ... The reason of this is, the mutual attraction of the particles of matter; when a body is below the surface of the earth, there is of course a part of the earth's shell above it, which attracts it upward in the same way as the mass of the earth attracts it downwards to its centre; its downward pressure must thus be diminished; and at the centre the mass of matter in the earth attracts the body equally on all sides, so that it can press no more in one direction than another,—that is, it can have no weight.

It is a curious consideration that (as a consequence of this fact that all bodies fall towards the centre of the earth) a stone let fall from a height in New Zealand, and another let fall from the top of the Monument in London, although they are both going to the ground, are also proceeding in lines which would meet in the earth's centre. If we say that the stone in London is falling downward — then the stone in New Zealand must be falling upwards, in relation to us; and downward and upward are just the opposite directions to us, which downward and upward are to the New Zealanders. Also with the people who

live at a quarter of the circumference of the globe from us — what they call downward and upward must be to us sideward, to the right and left... This is easily understood by taking a ball and considering how lines proceed from all points of its circumference to its centre. Up and down, then, are only relative terms. *Down*, everywhere means towards the centre of the earth ; and *up*, means from that centre.

A. H. D.

THE END.



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